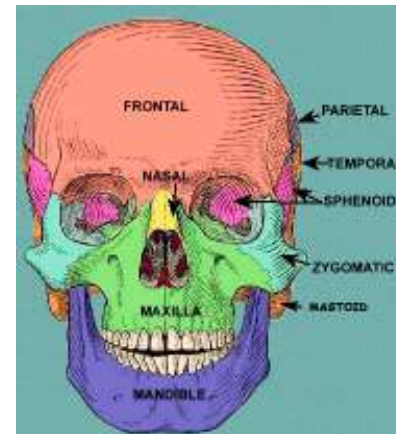


Lectures of Anatomy

Head & Neck



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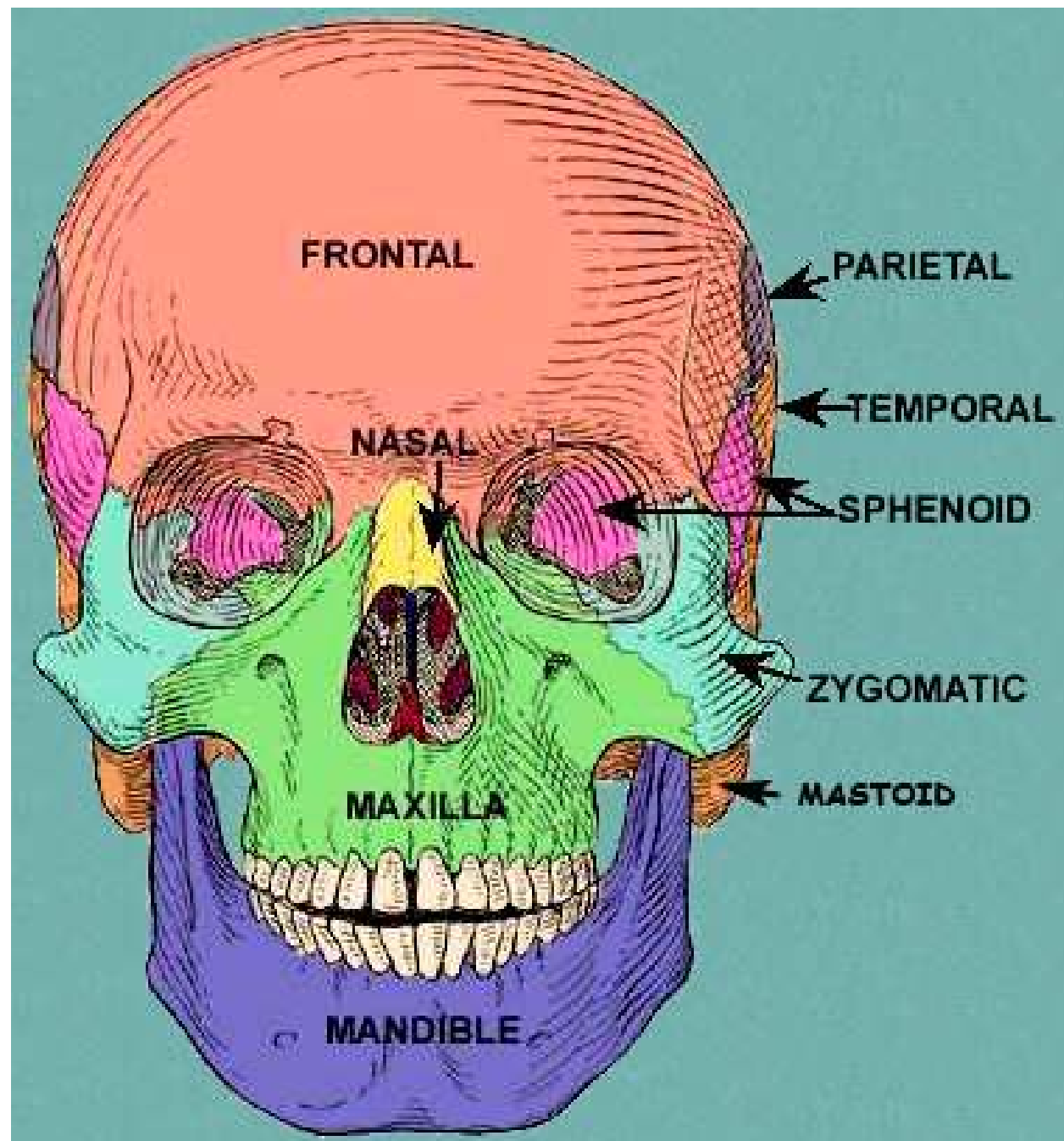
M. D.; Ph. D.

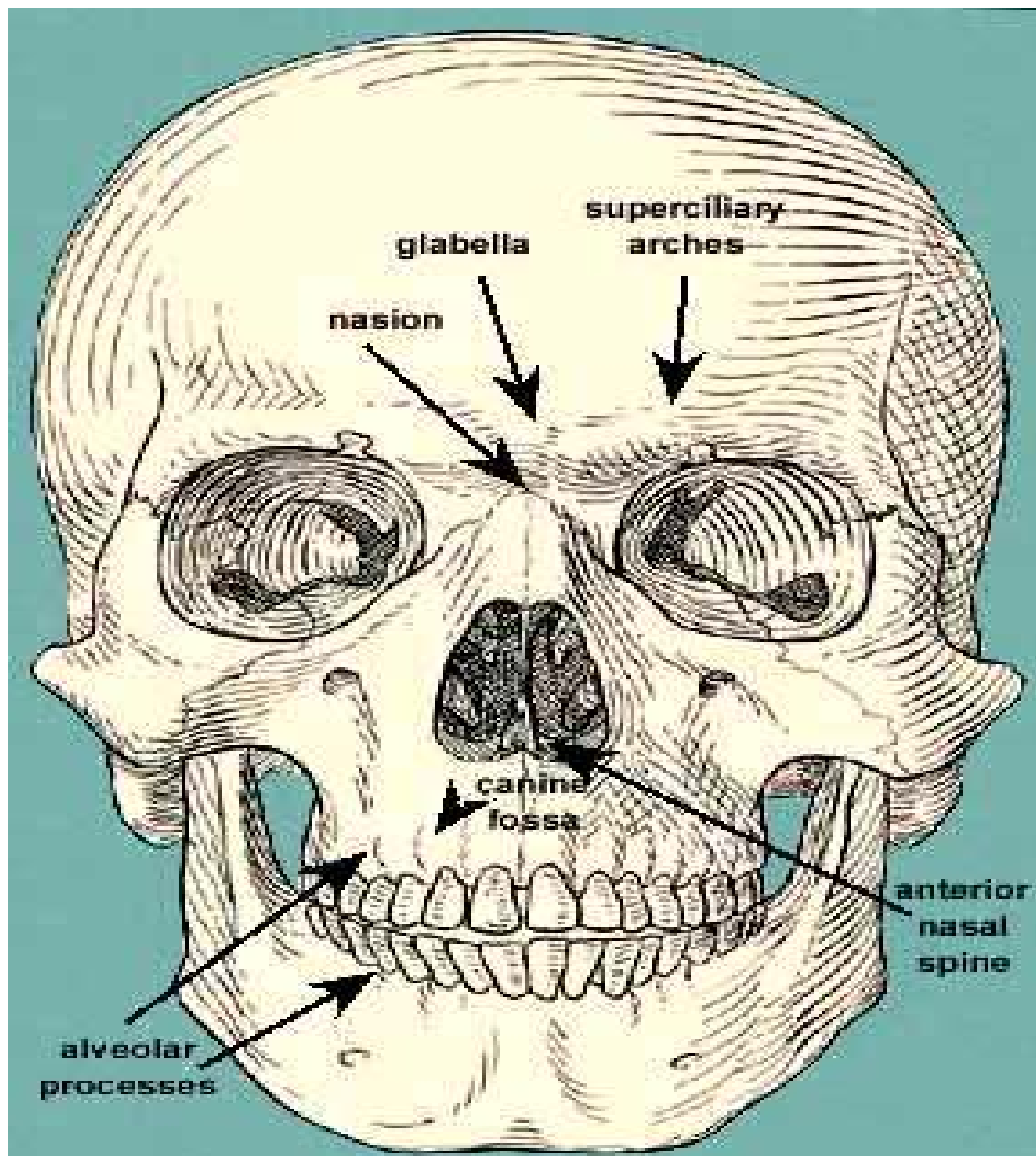
Lecture 1

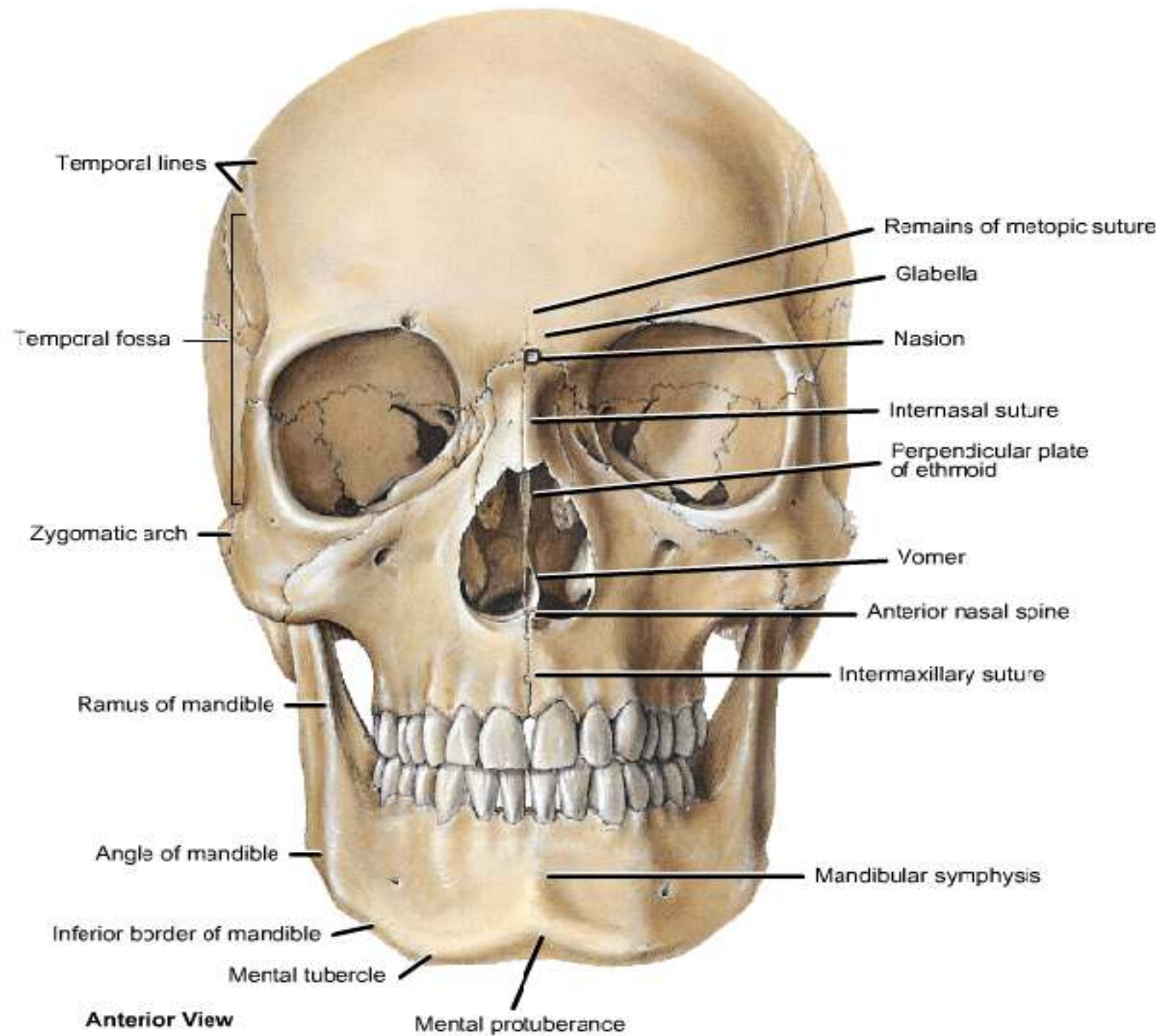
Skull

Norma Frontalis

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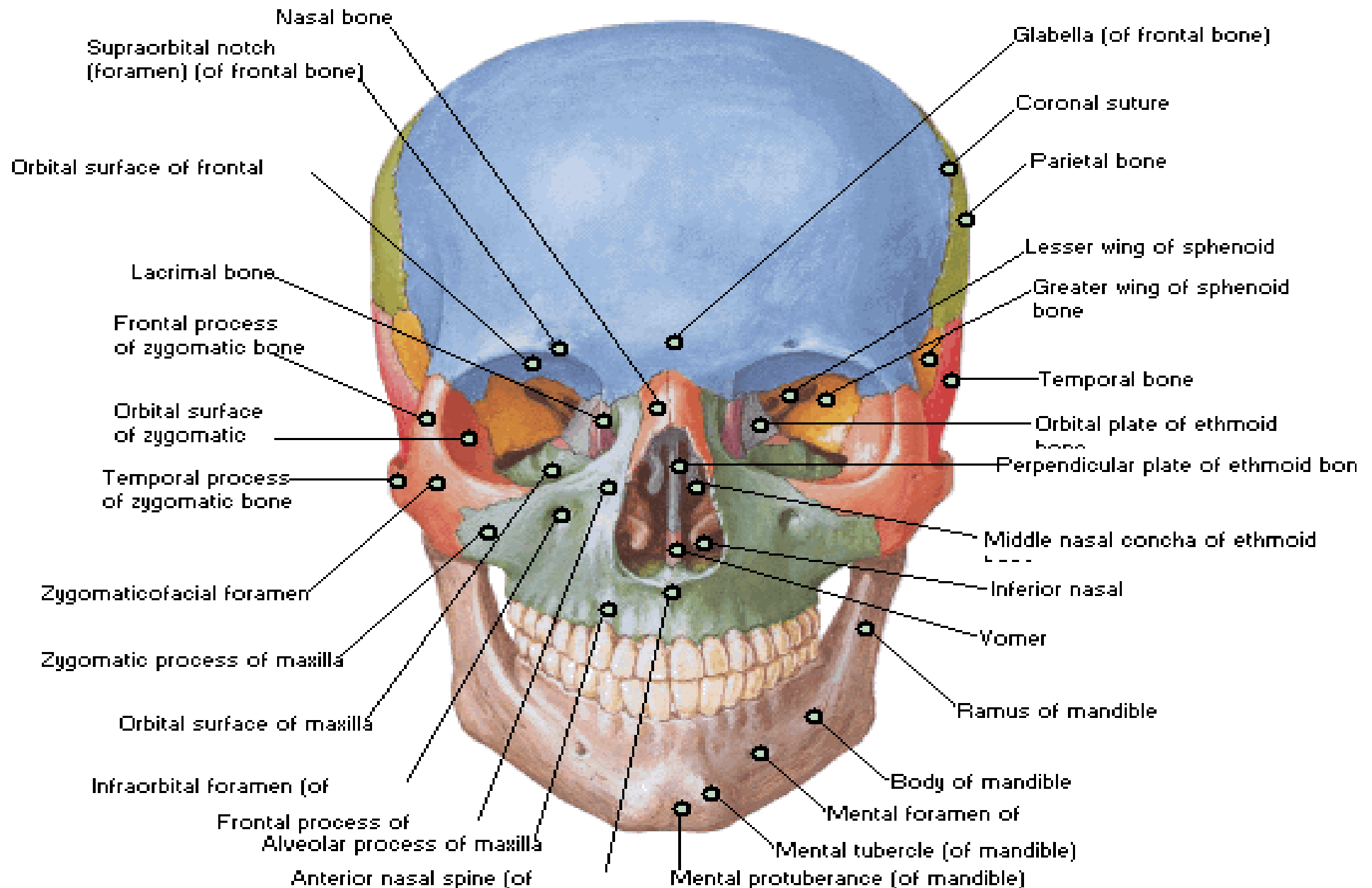


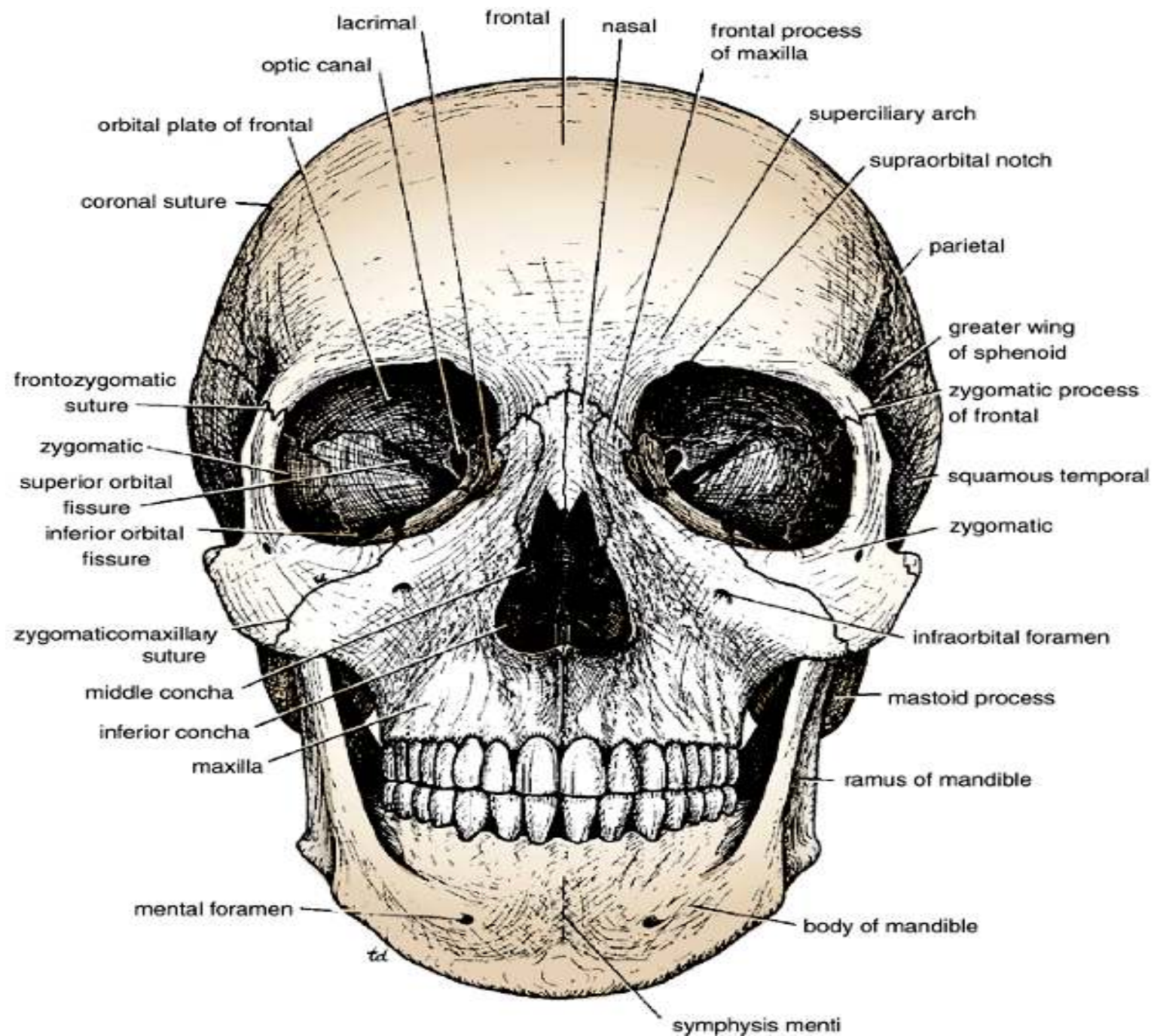




Skull

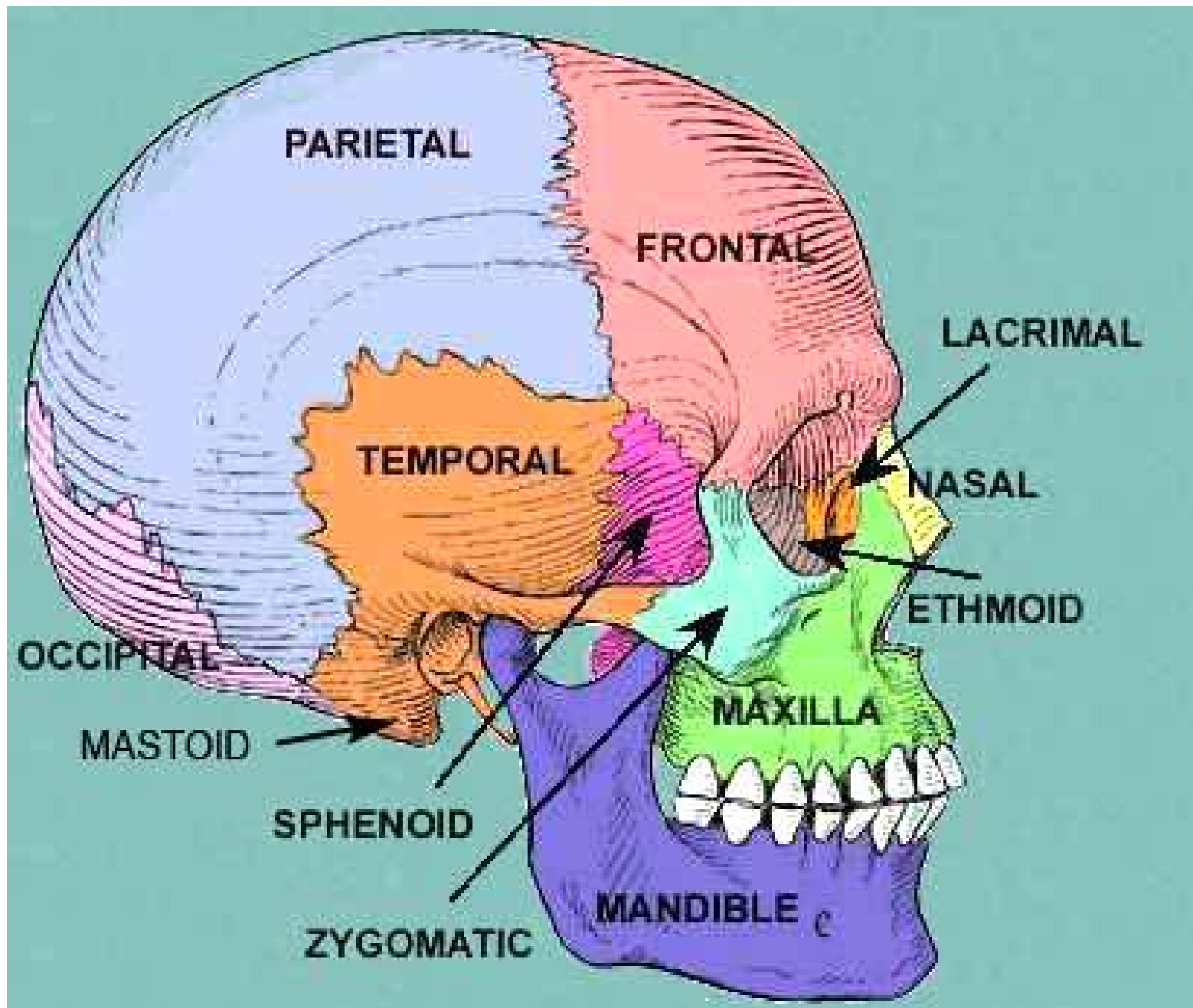
Anterior View

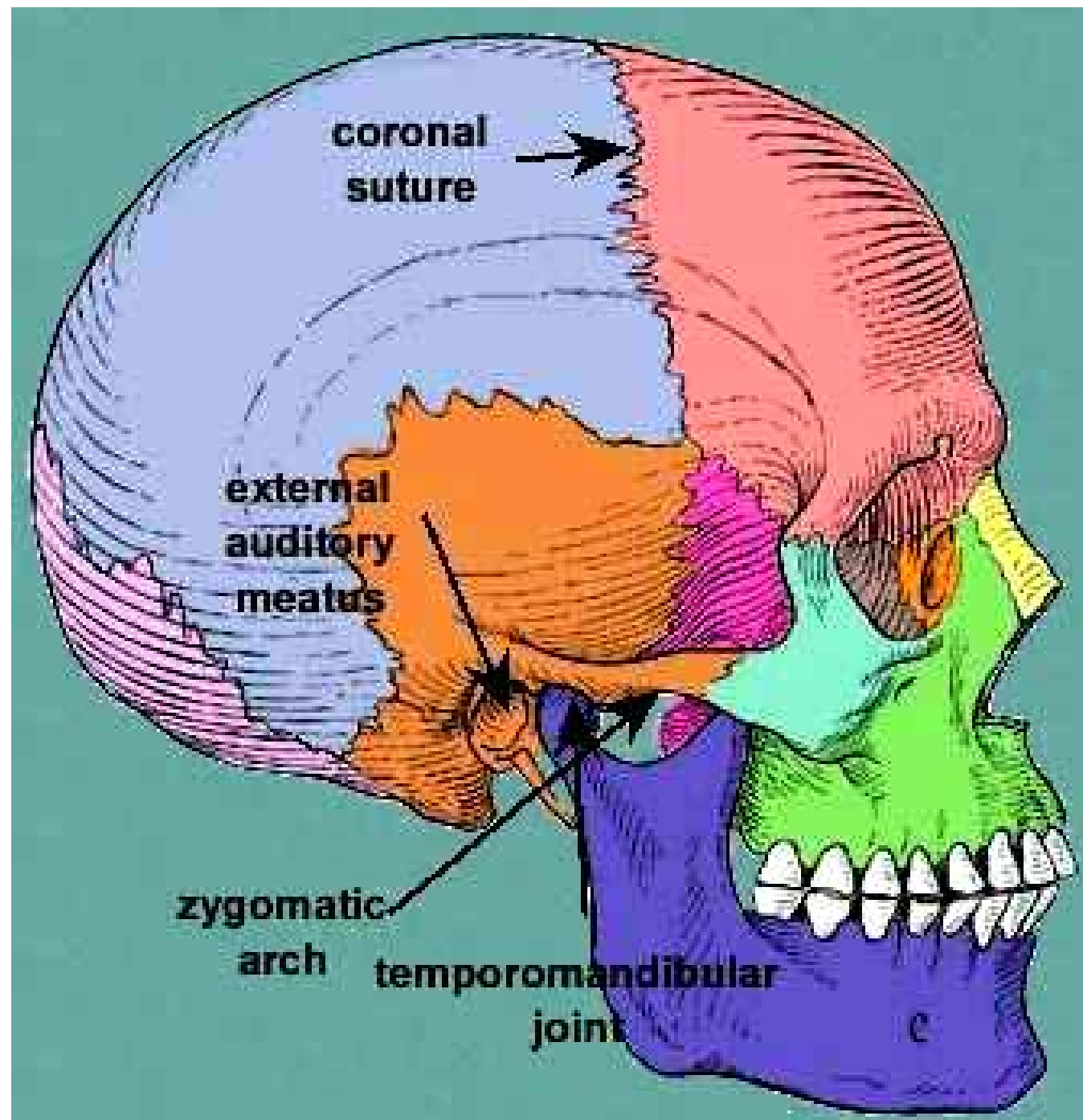


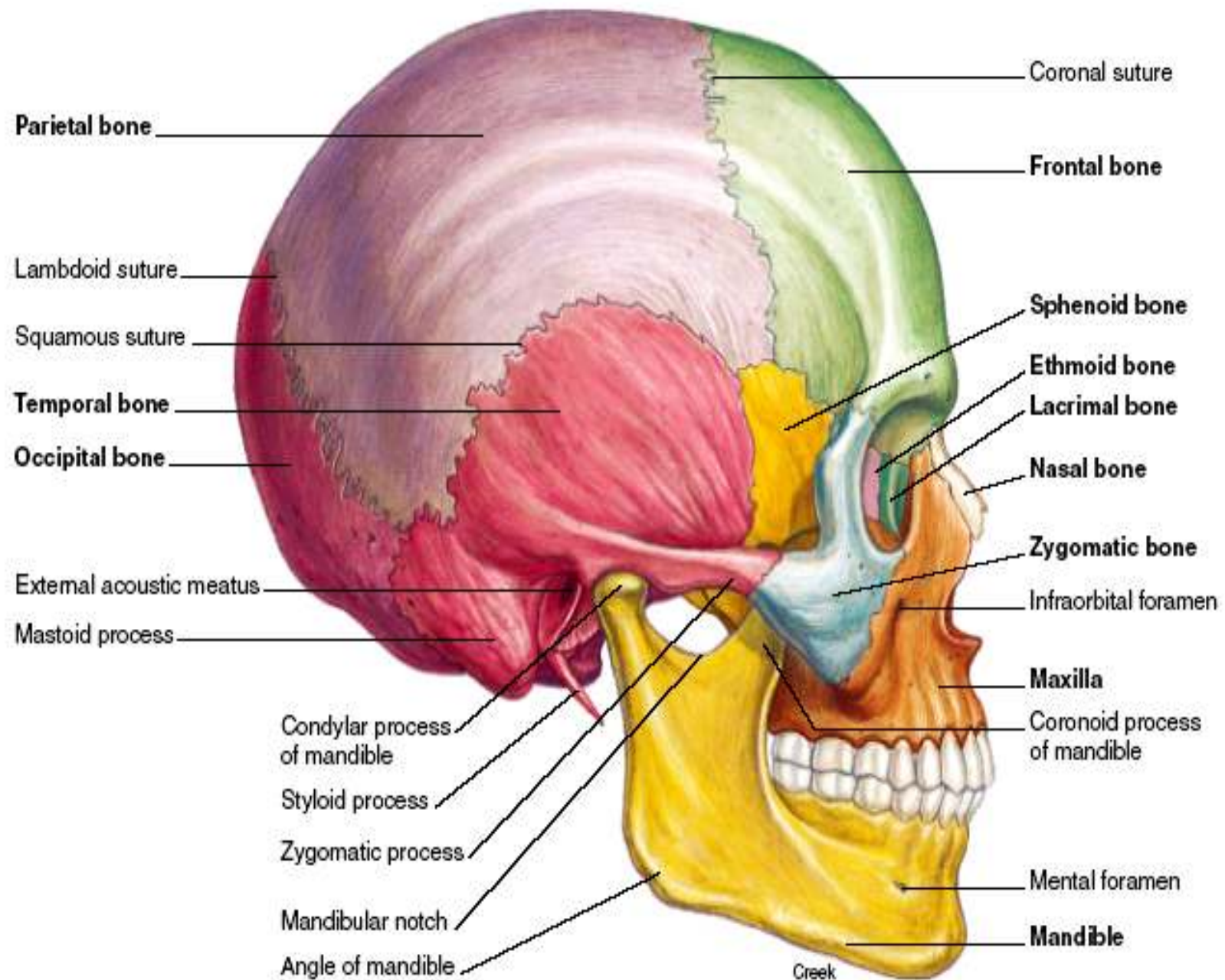


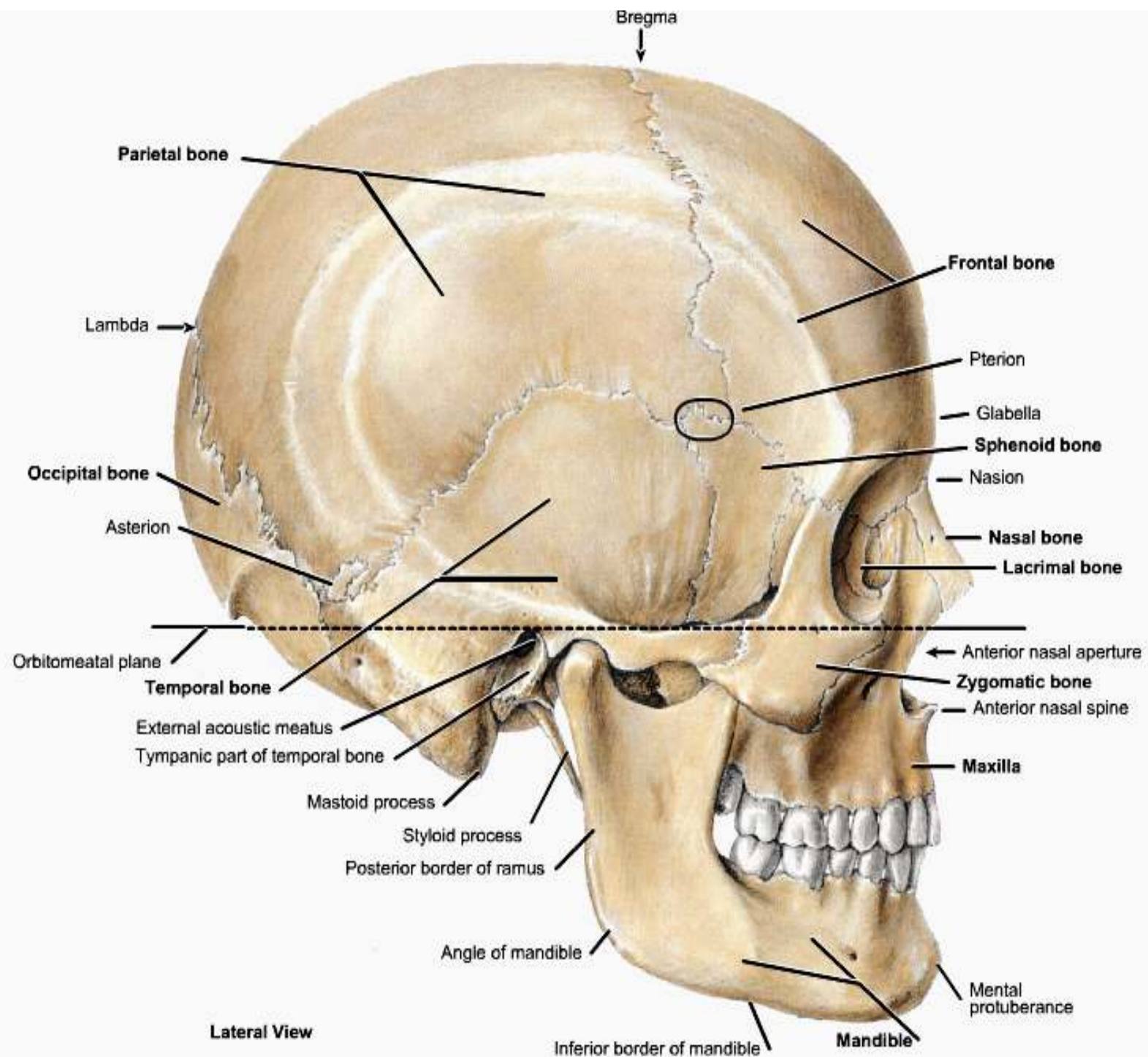
Norma Lateralis

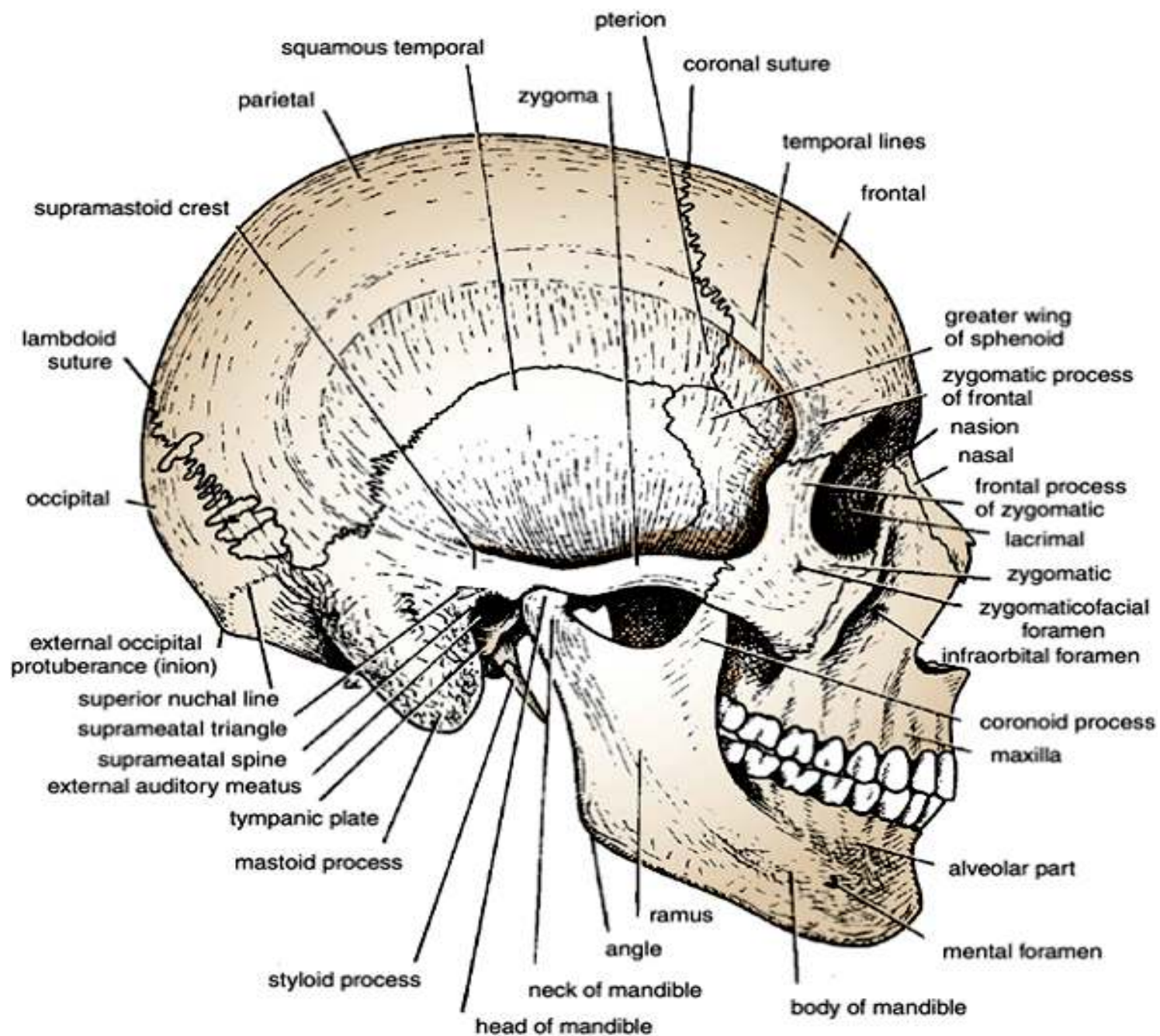
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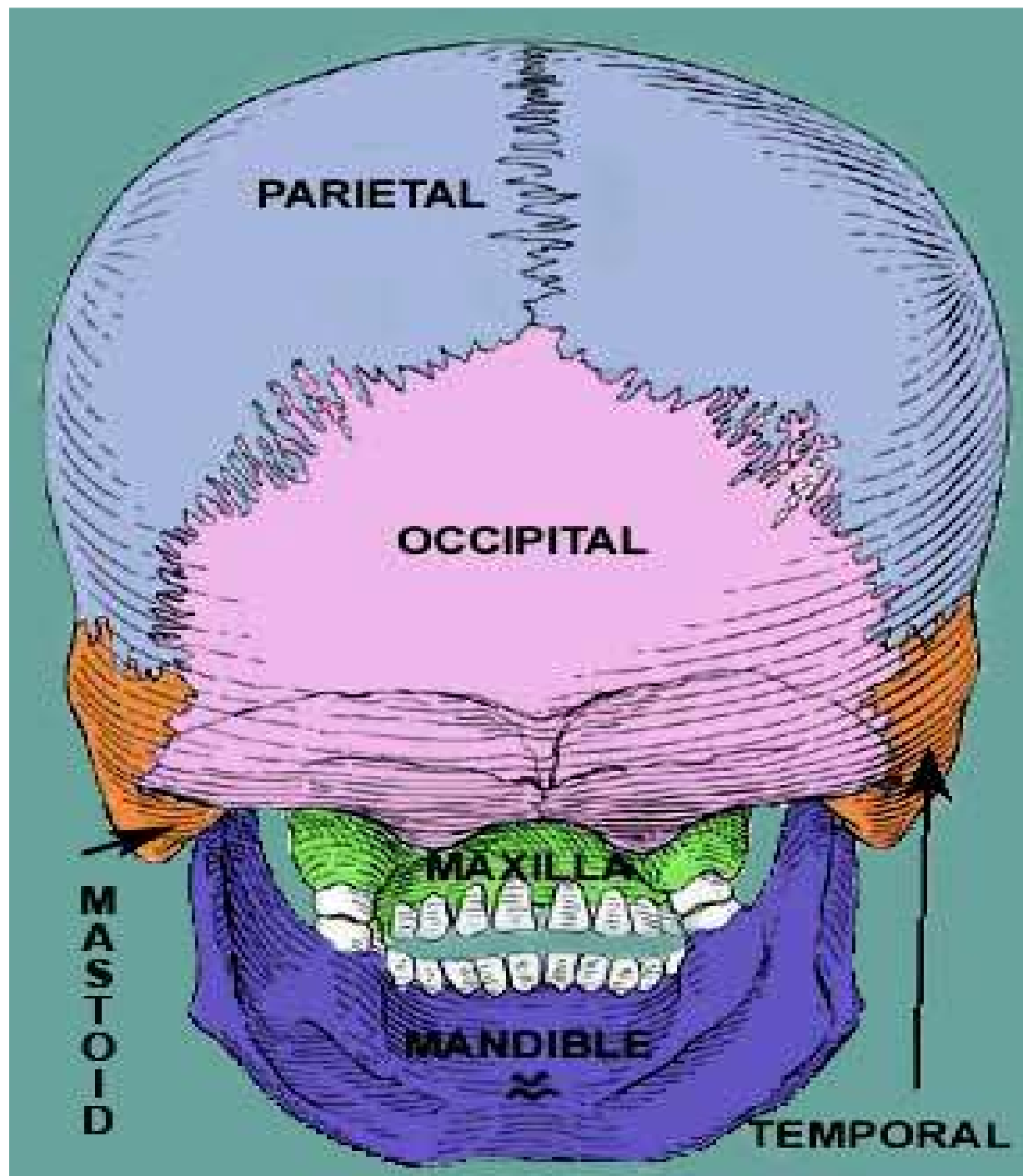


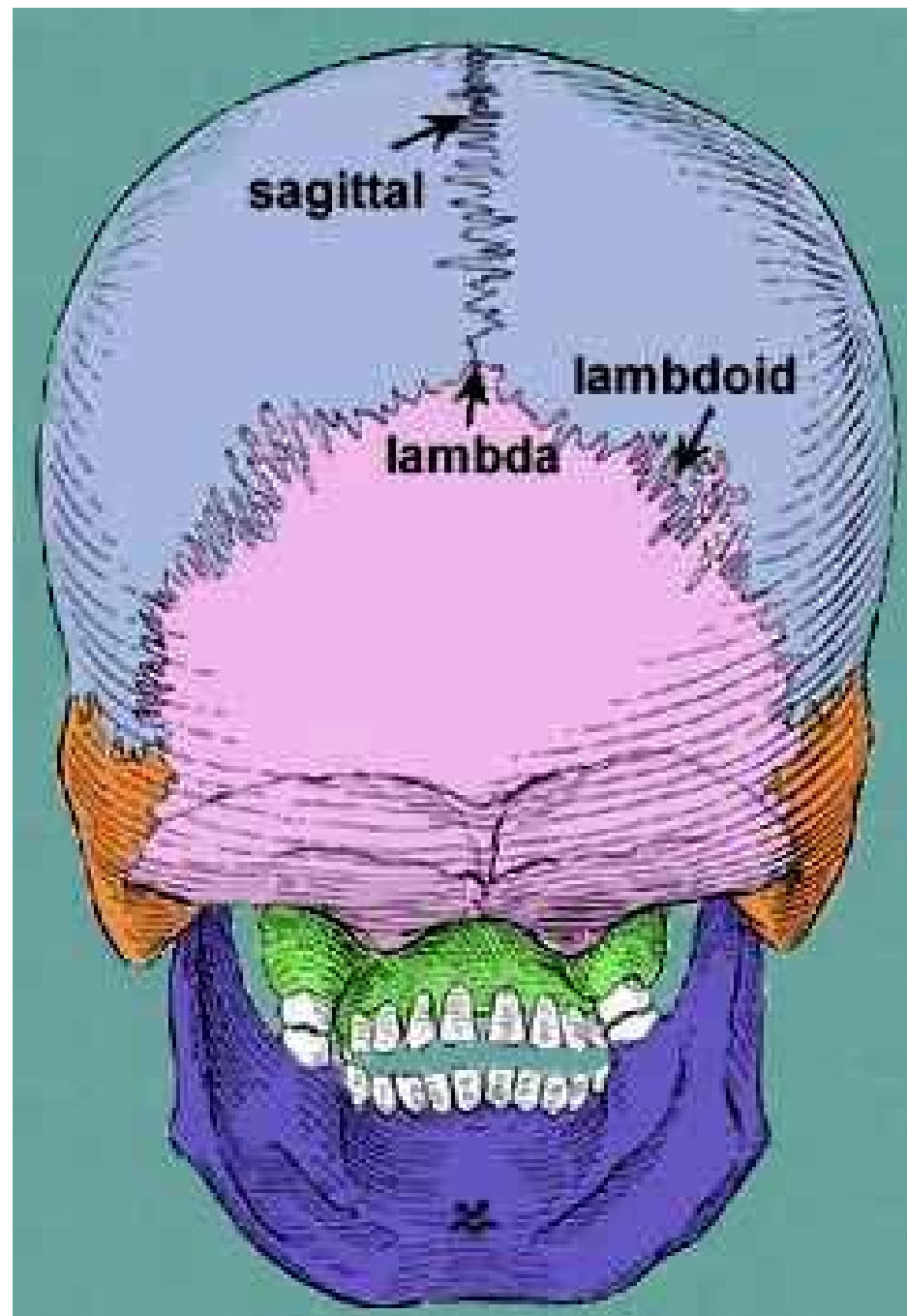


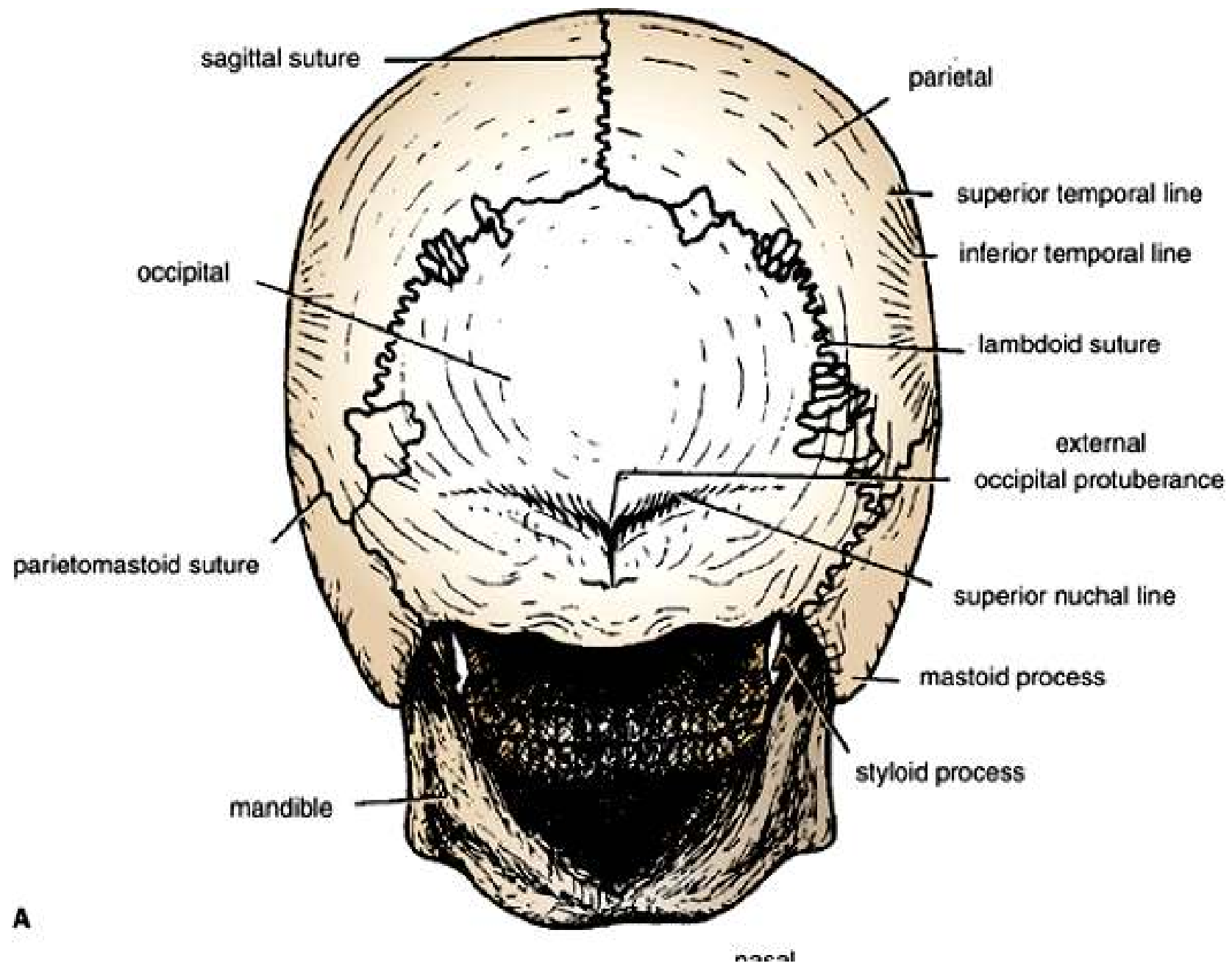


Norma Occipitalis

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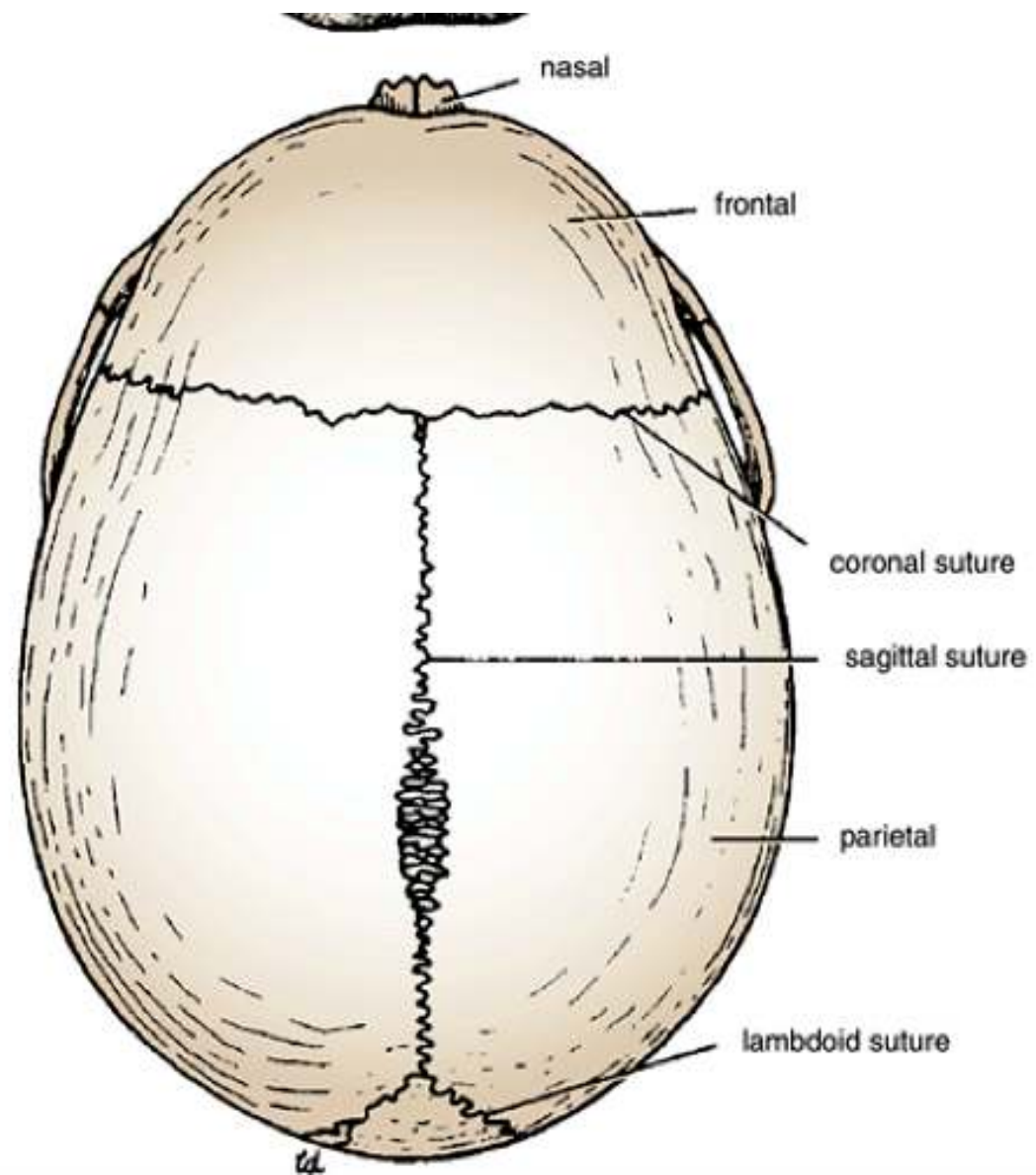




A

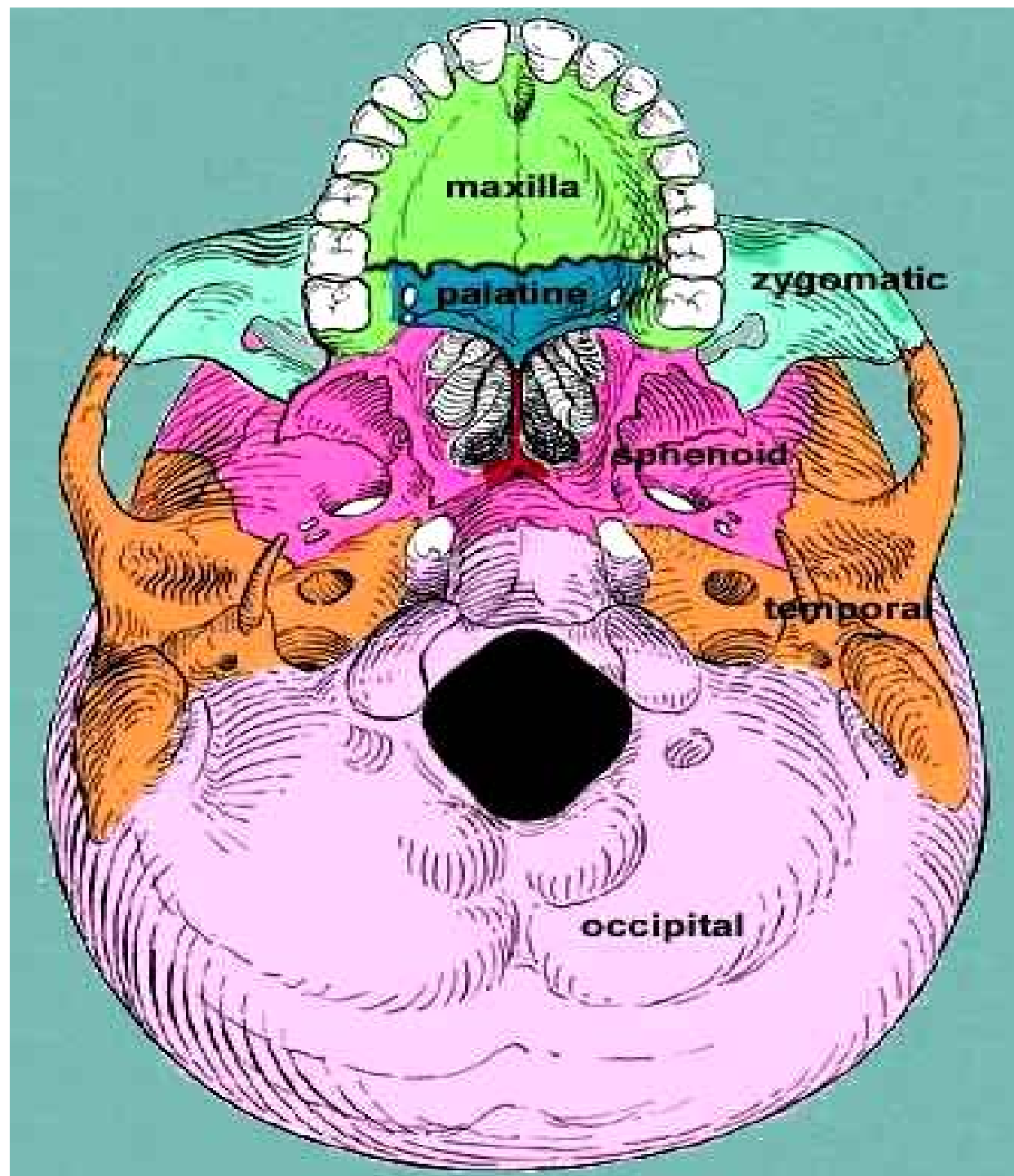
Norma Verticalis

Dr. Noura El Tahawy



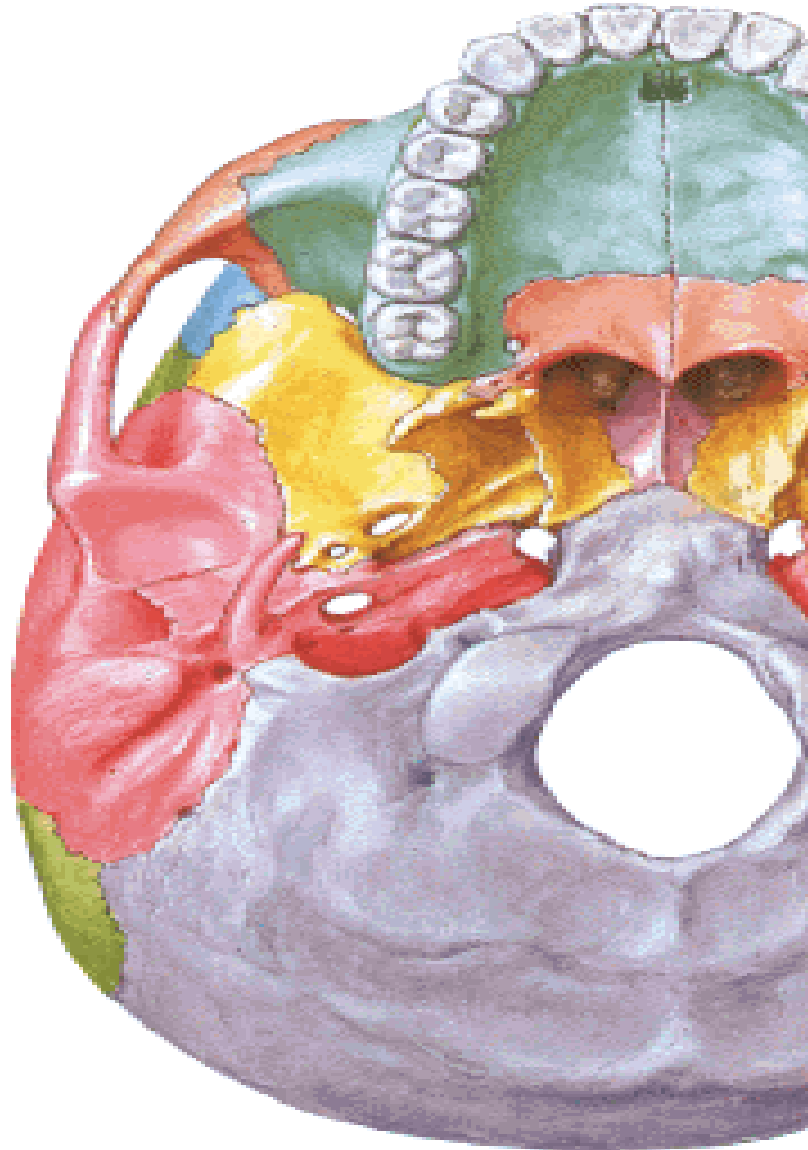
Norma Basalis Externa

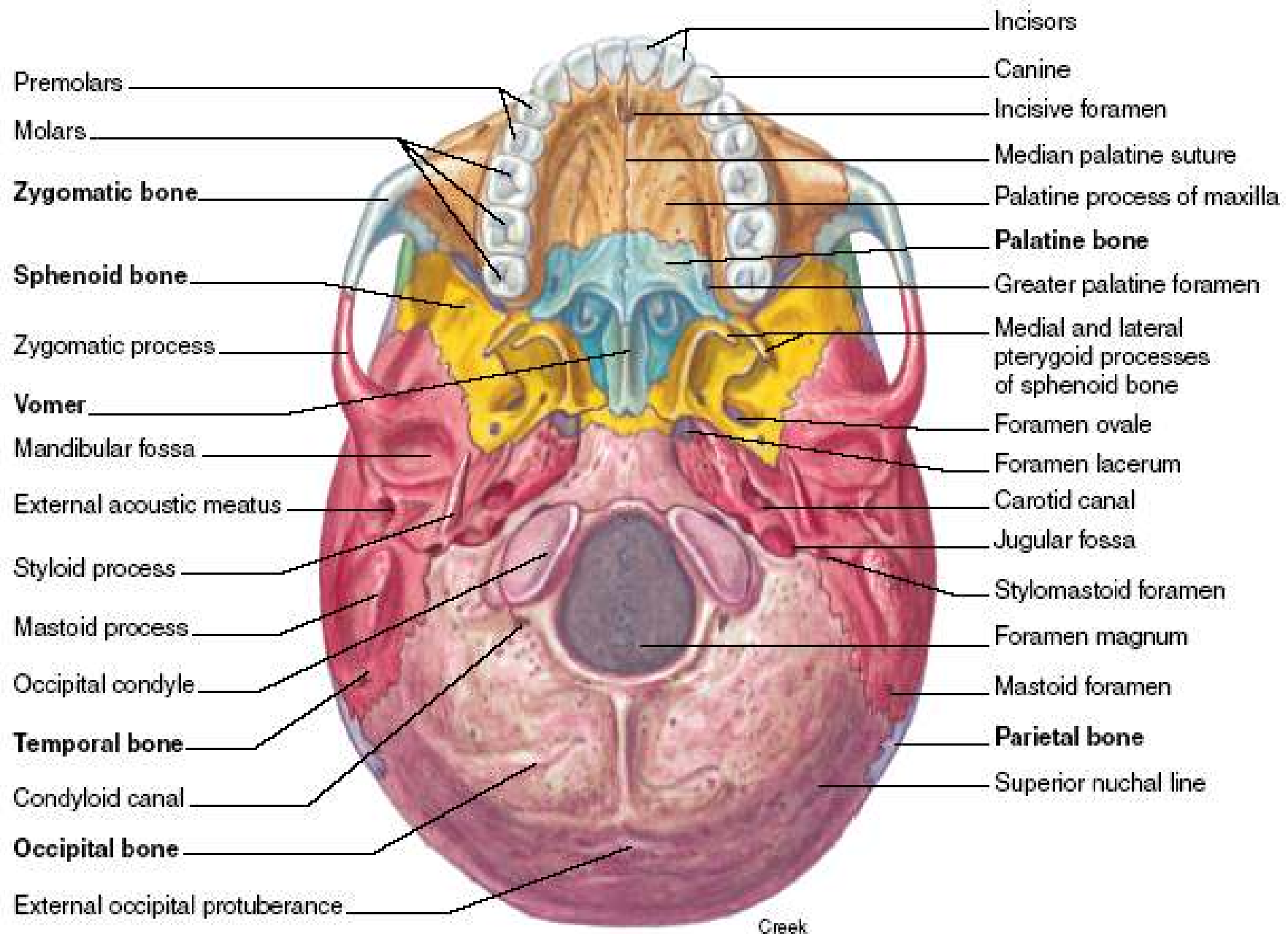
Dr. Noura El Tahawy

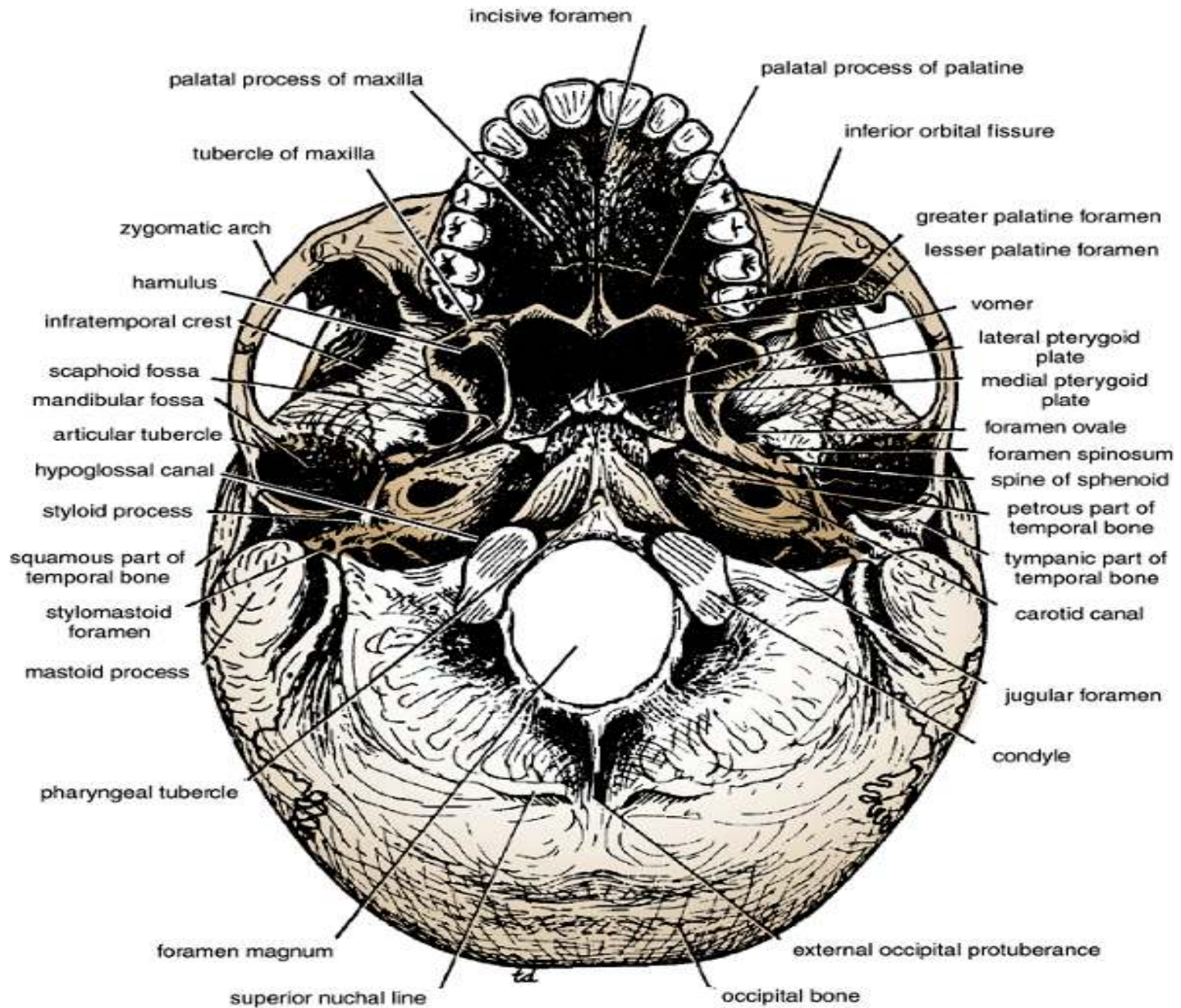


Cranial Base

Inferior View

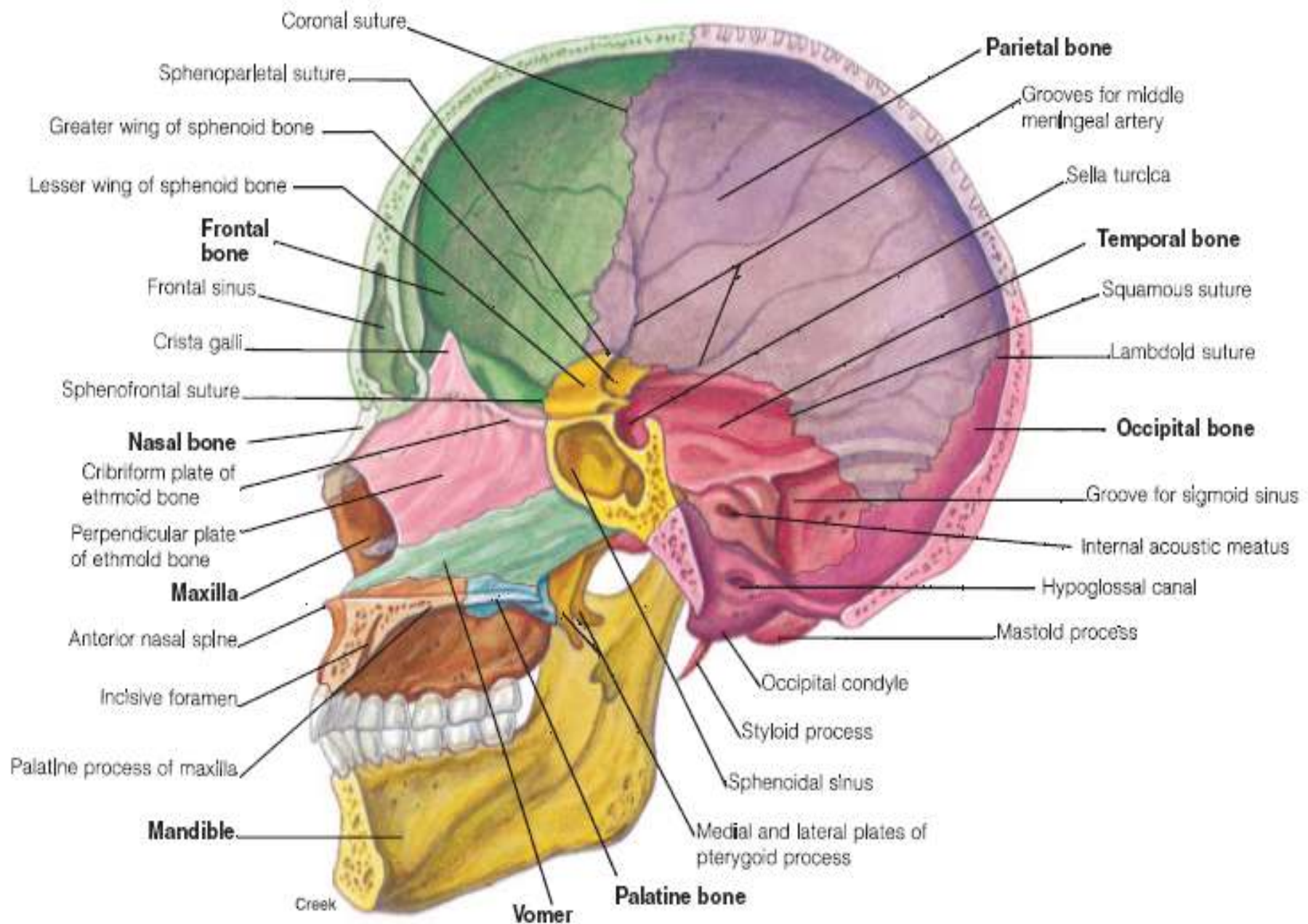


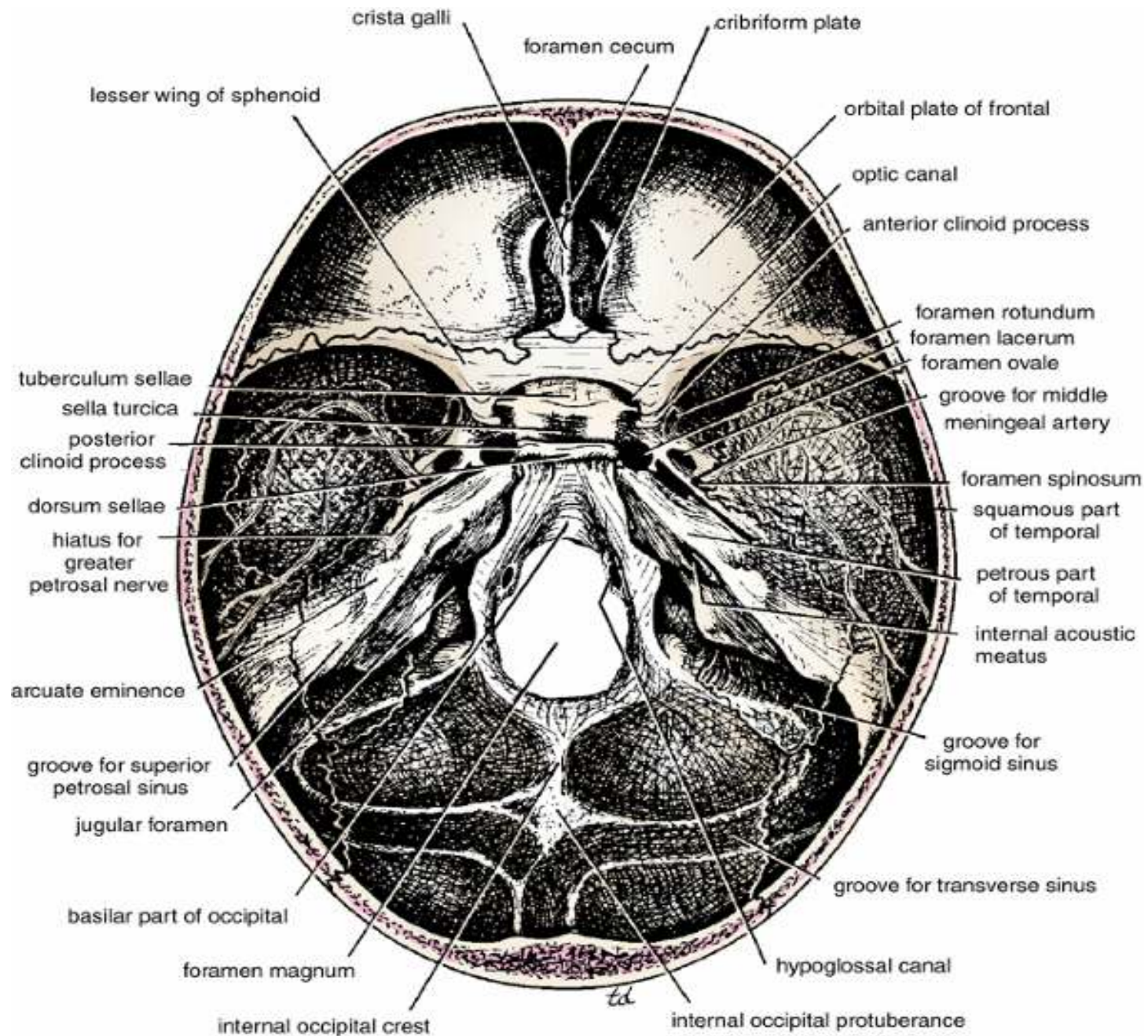




Norma Basalis Interna

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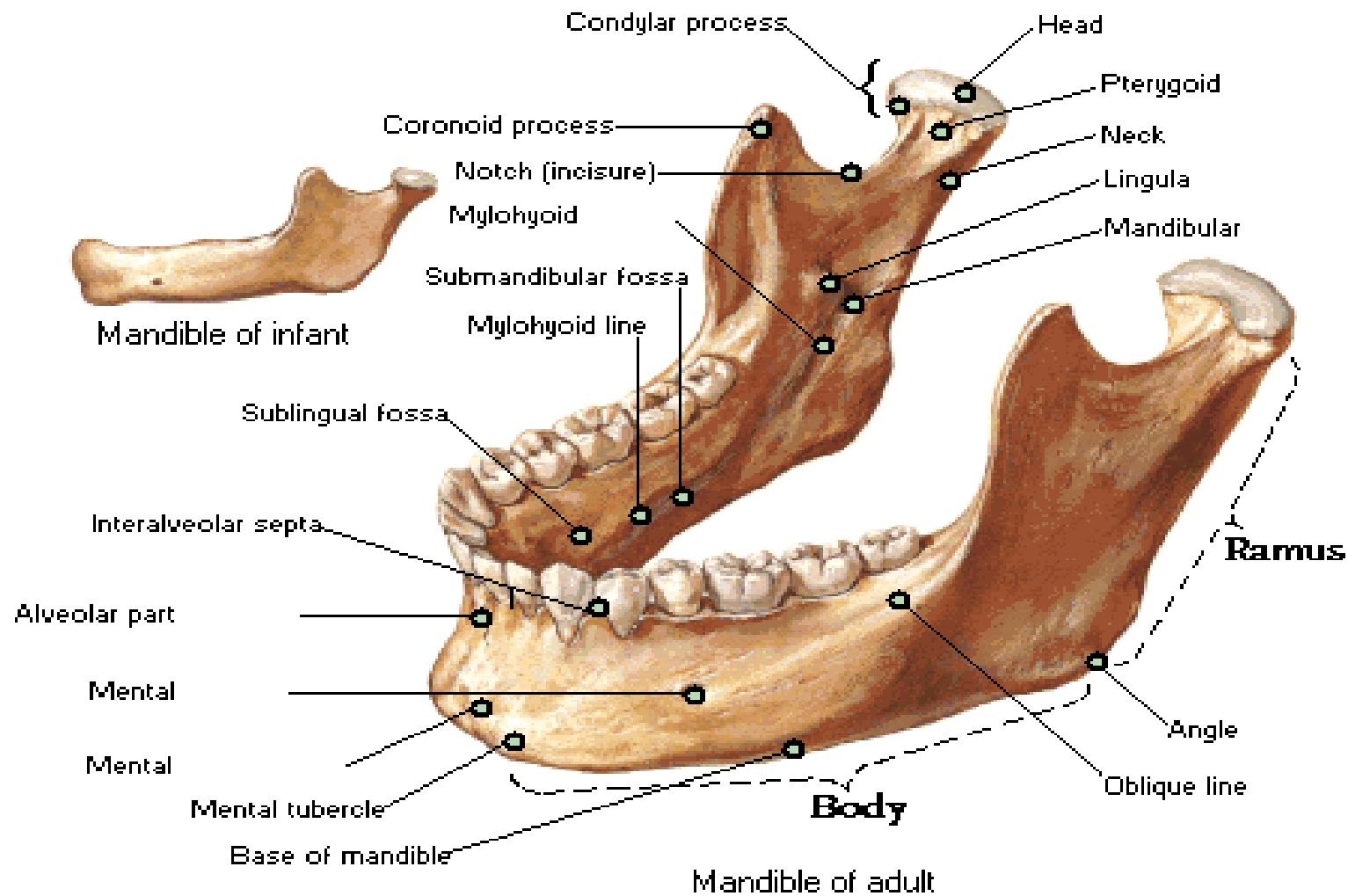
Foramen	Location	Structures Transmitted
Carotid canal	Petrous part of temporal bone	Internal carotid artery and sympathetic nerves
Greater palatine foramen	Palatine bone of hard palate	Greater palatine nerve and descending palatine vessels
Hypoglossal canal	Anterolateral edge of occipital condyle	Hypoglossal nerve and branch of ascending pharyngeal artery
Incisive foramen	Anterior region of hard palate, posterior to incisors	Branches of descending palatine vessels and nasopalatine nerve
Inferior orbital fissure	Between maxilla and greater wing of sphenoid bone	Maxillary nerve of trigeminal cranial nerve, zygomatic nerve, and infraorbital vessels
Infraorbital foramen	Inferior to orbit in maxilla	Infraorbital nerve and artery
Jugular foramen	Between petrous part of temporal and occipital bones, posterior to carotid canal	Internal jugular vein; vagus, glossopharyngeal, and accessory nerves
Foramen lacerum	Between petrous part of temporal and sphenoid bones	Branch of ascending pharyngeal artery and internal carotid artery
Lesser palatine foramen	Posterior to greater palatine foramen in hard palate	Lesser palatine nerves
Foramen magnum	Occipital bone	Union of medulla oblongata and spinal cord, meningeal membranes, and accessory nerves; vertebral and spinal arteries
Mandibular foramen	Medial surface of ramus of mandible	Inferior alveolar nerve and vessels
Mental foramen	Below second premolar on lateral side of mandible	Mental nerve and vessels
Nasolacrimal canal	Lacrimal bone	Nasolacrimal (tear) duct
Cribriform foramina	Cribriform plate of ethmoid bone	Olfactory nerves
Optic foramen	Back of orbit in lesser wing of sphenoid bone	Optic nerve and ophthalmic artery
Foramen ovale	Greater wing of sphenoid bone	Mandibular nerve (branch) of trigeminal nerve
Foramen rotundum	Within body of sphenoid bone	Maxillary nerve (branch) of trigeminal nerve
Foramen spinosum	Posterior angle of sphenoid bone	Middle meningeal vessels
Stylomastoid foramen	Between styloid and mastoid processes of temporal bone	Facial nerve and stylomastoid artery
Superior orbital fissure	Between greater and lesser wings of sphenoid bone	Four cranial nerves (oculomotor, trochlear, ophthalmic nerve of trigeminal, and abducens)
Supraorbital foramen	Supraorbital ridge of orbit	Supraorbital nerve and artery
Zygomaticofacial foramen	Anterolateral surface of zygomatic bone	Zygomaticofacial nerve and vessels

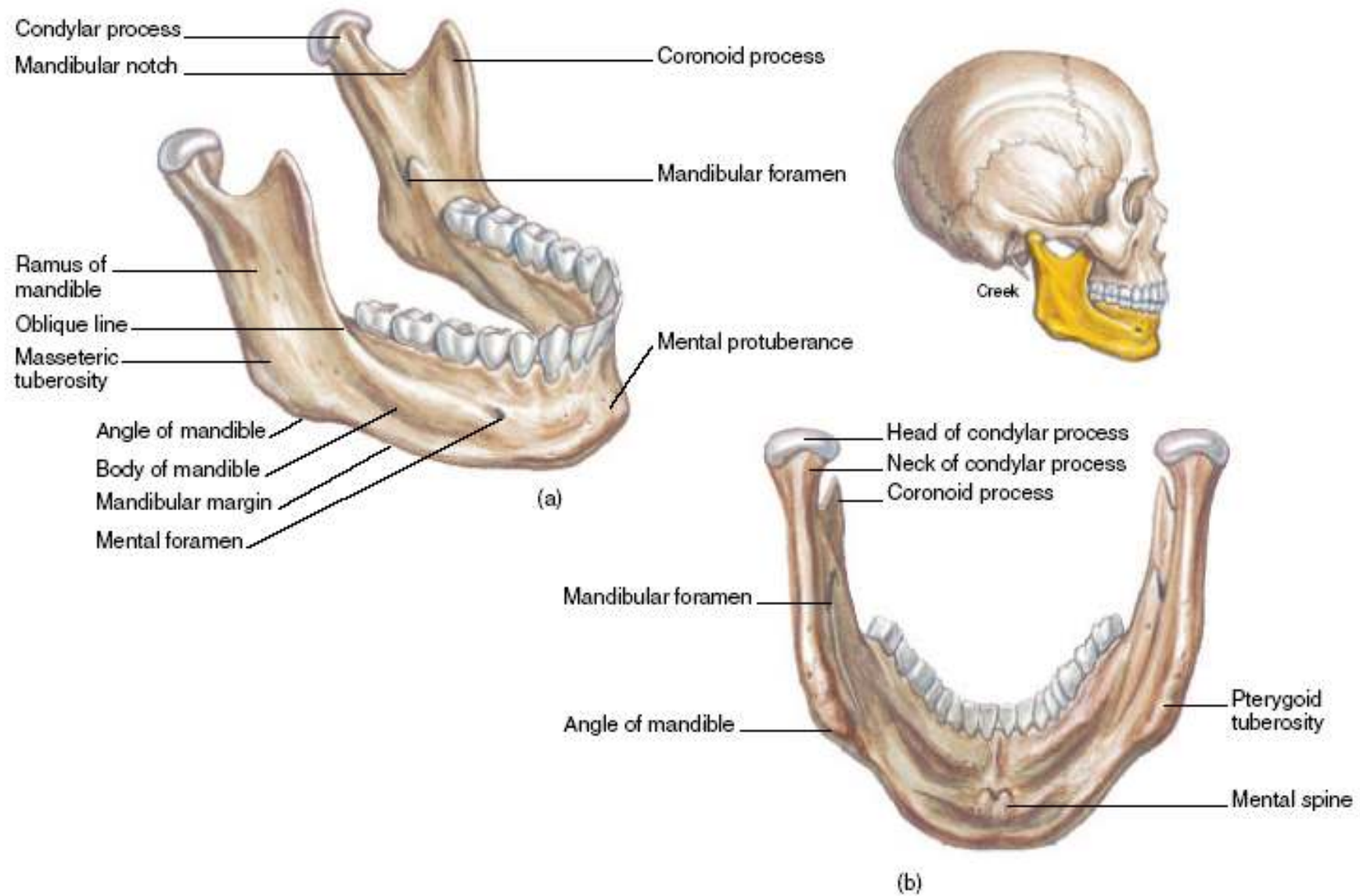
Mandible

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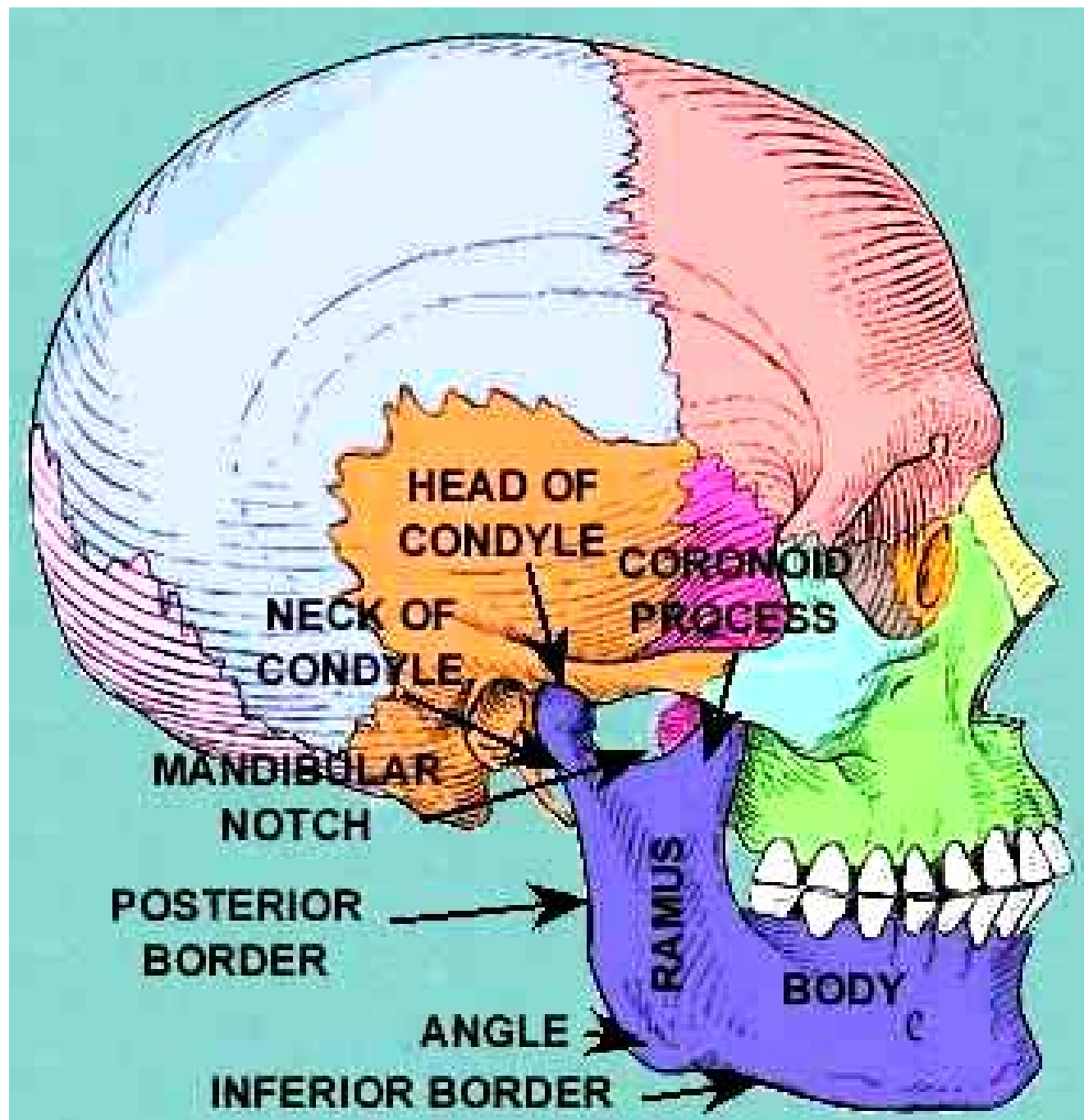
Mandible

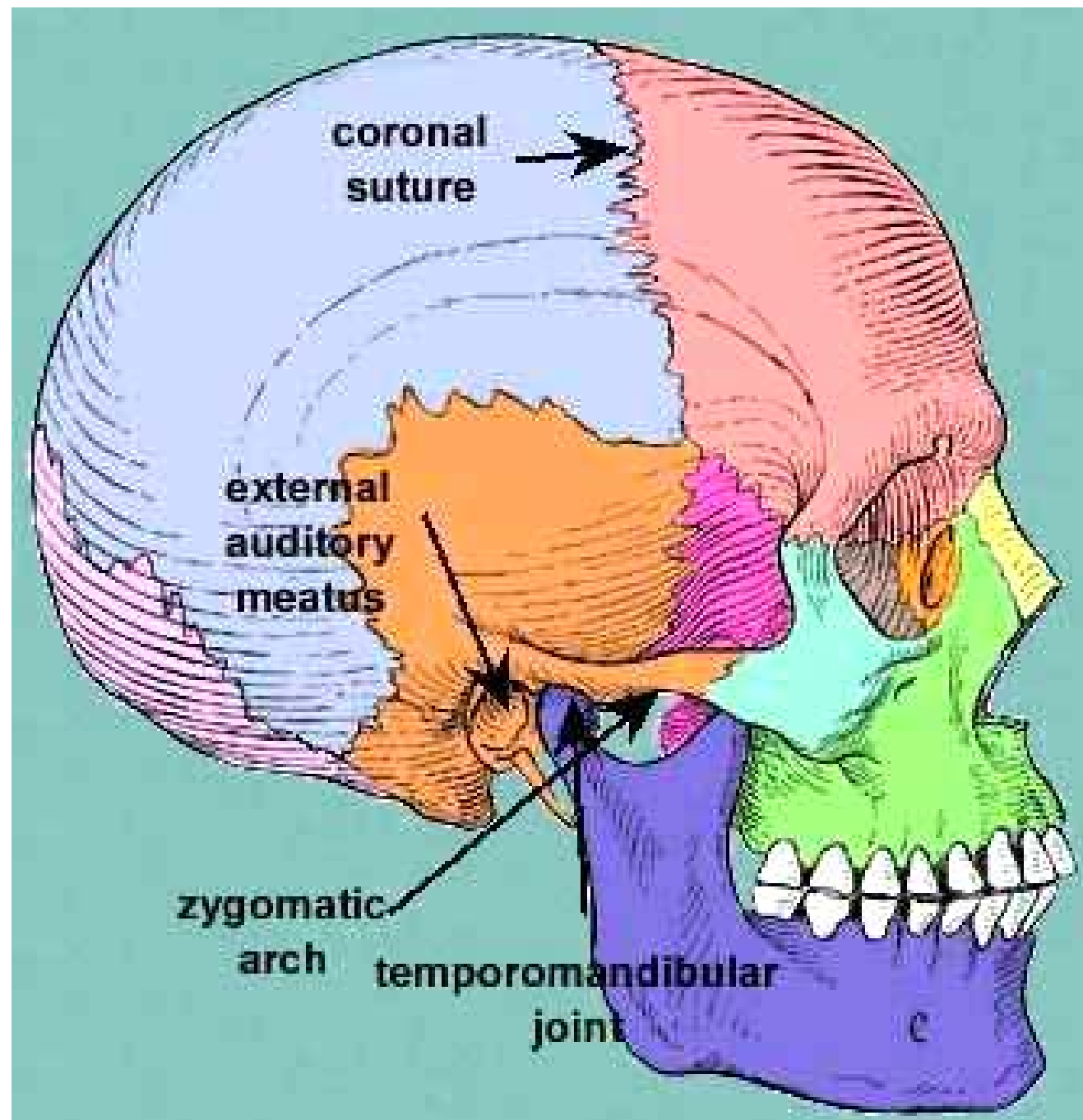
Anterolateral Superior View

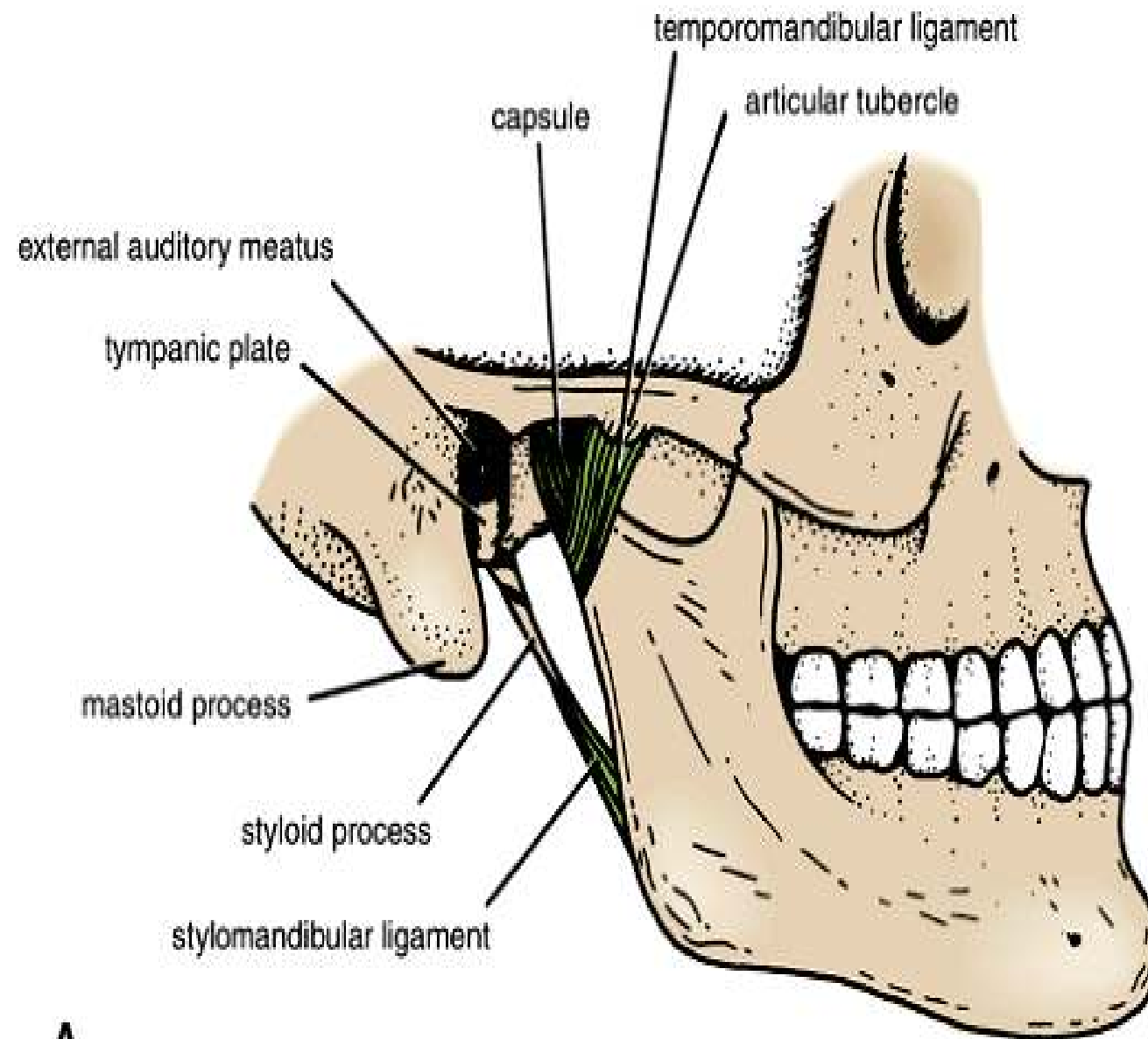




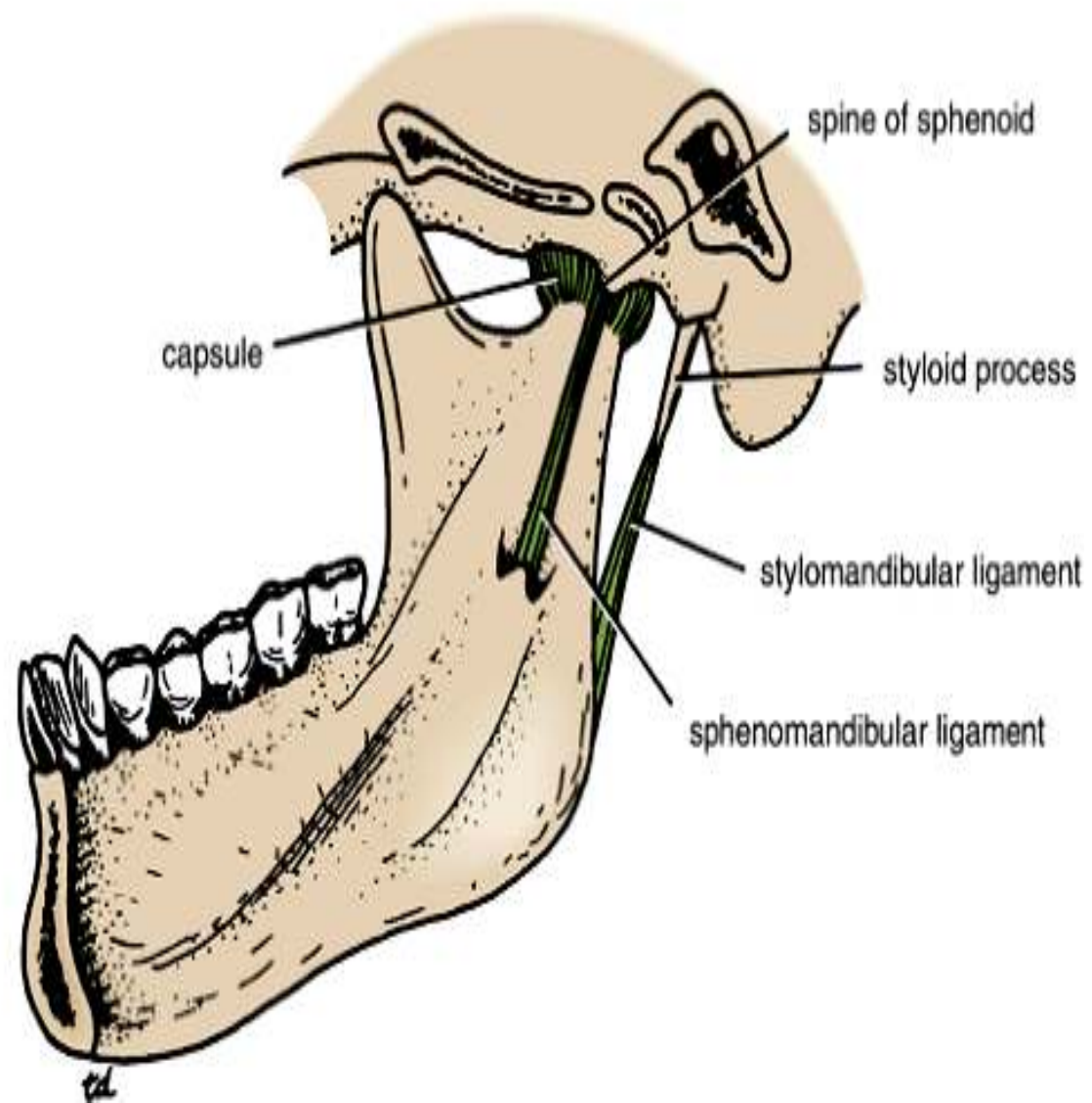
The mandible. (a) A lateral view and (b) a posterior view.



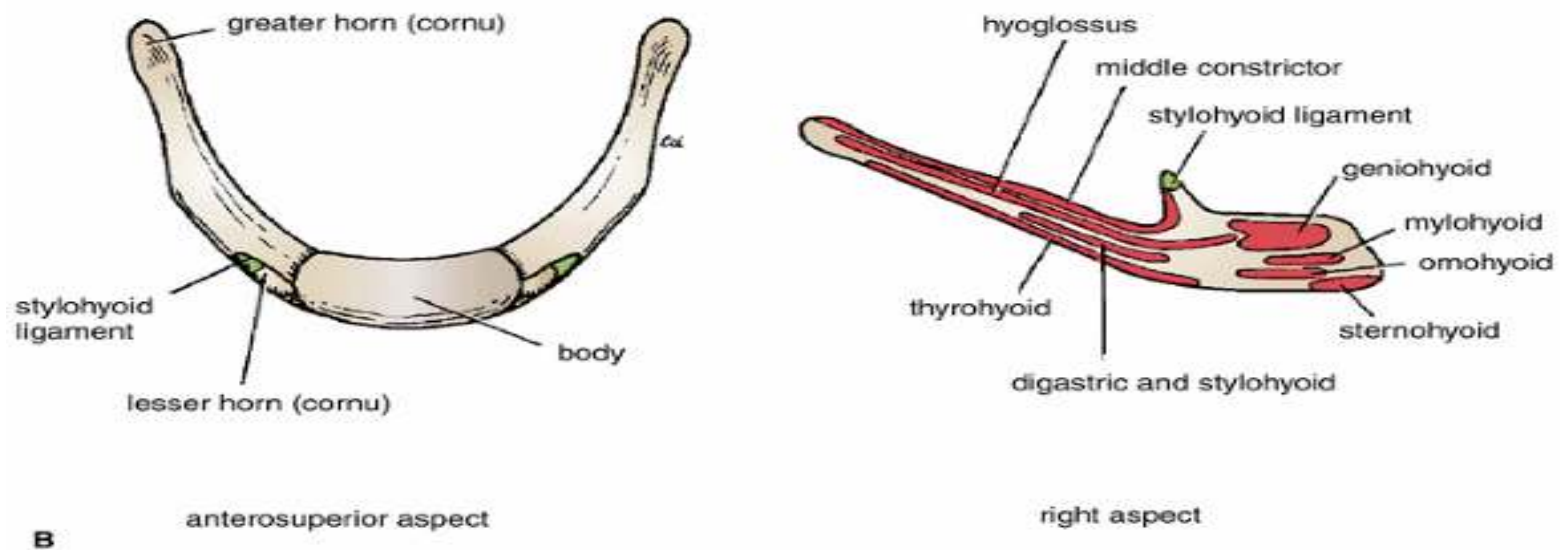
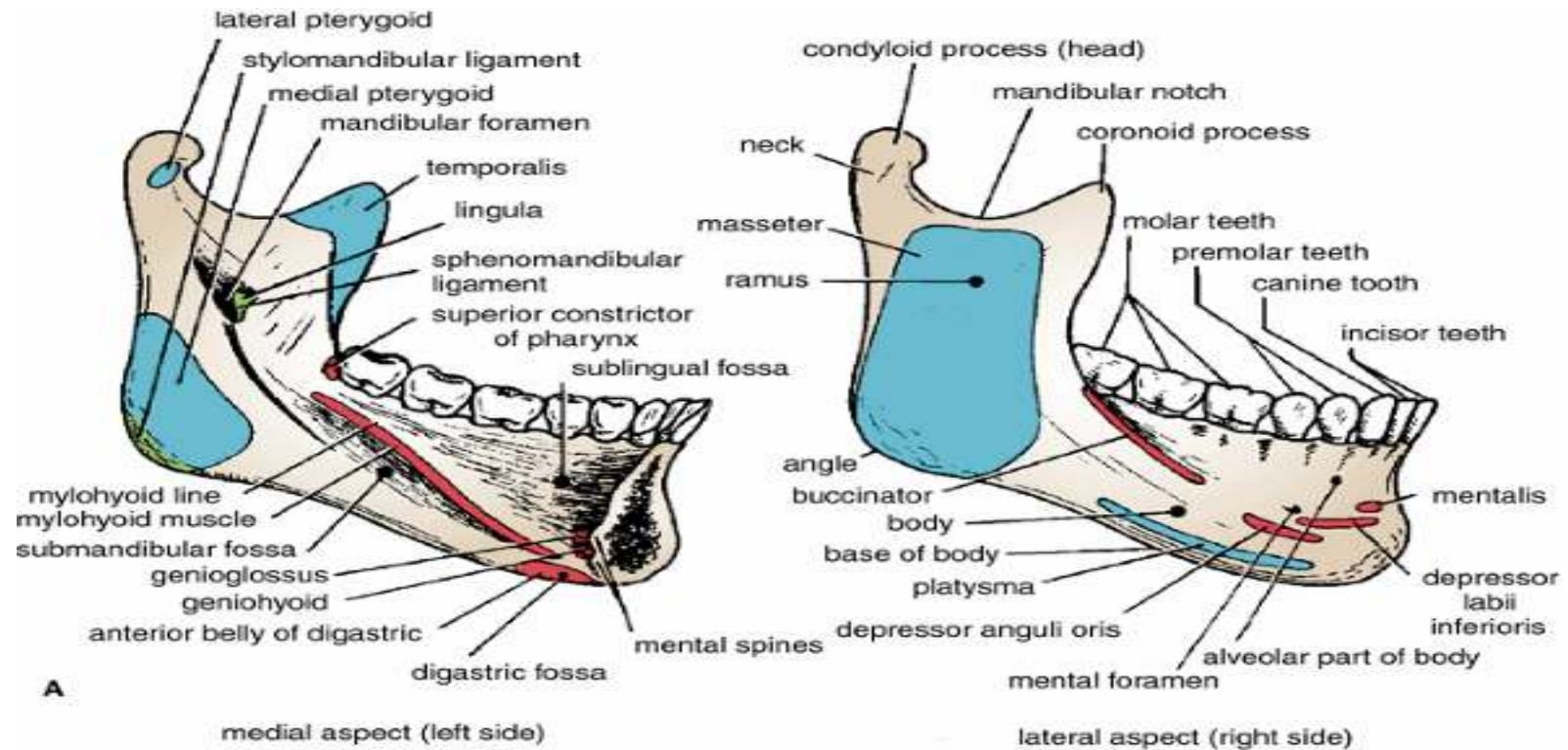




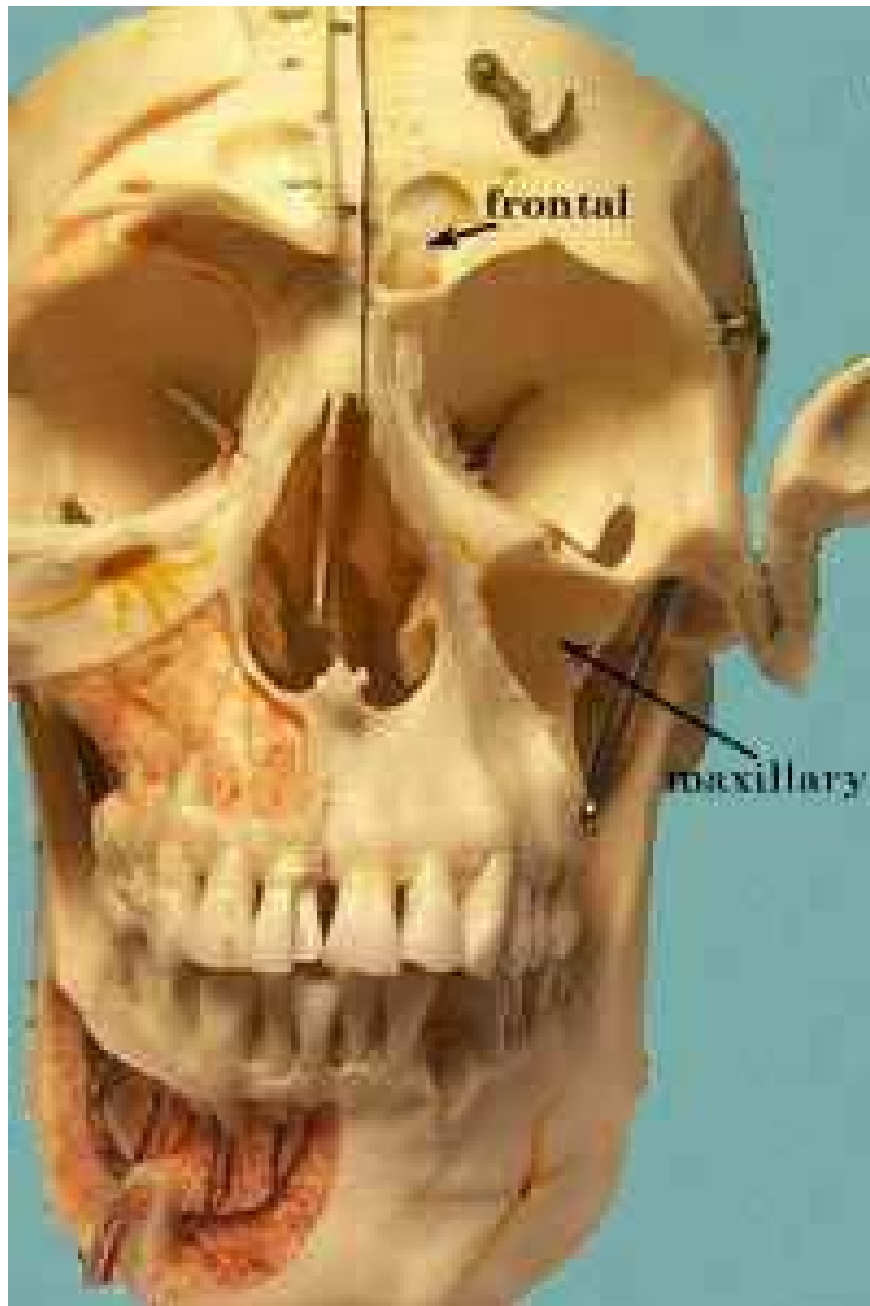
A



B



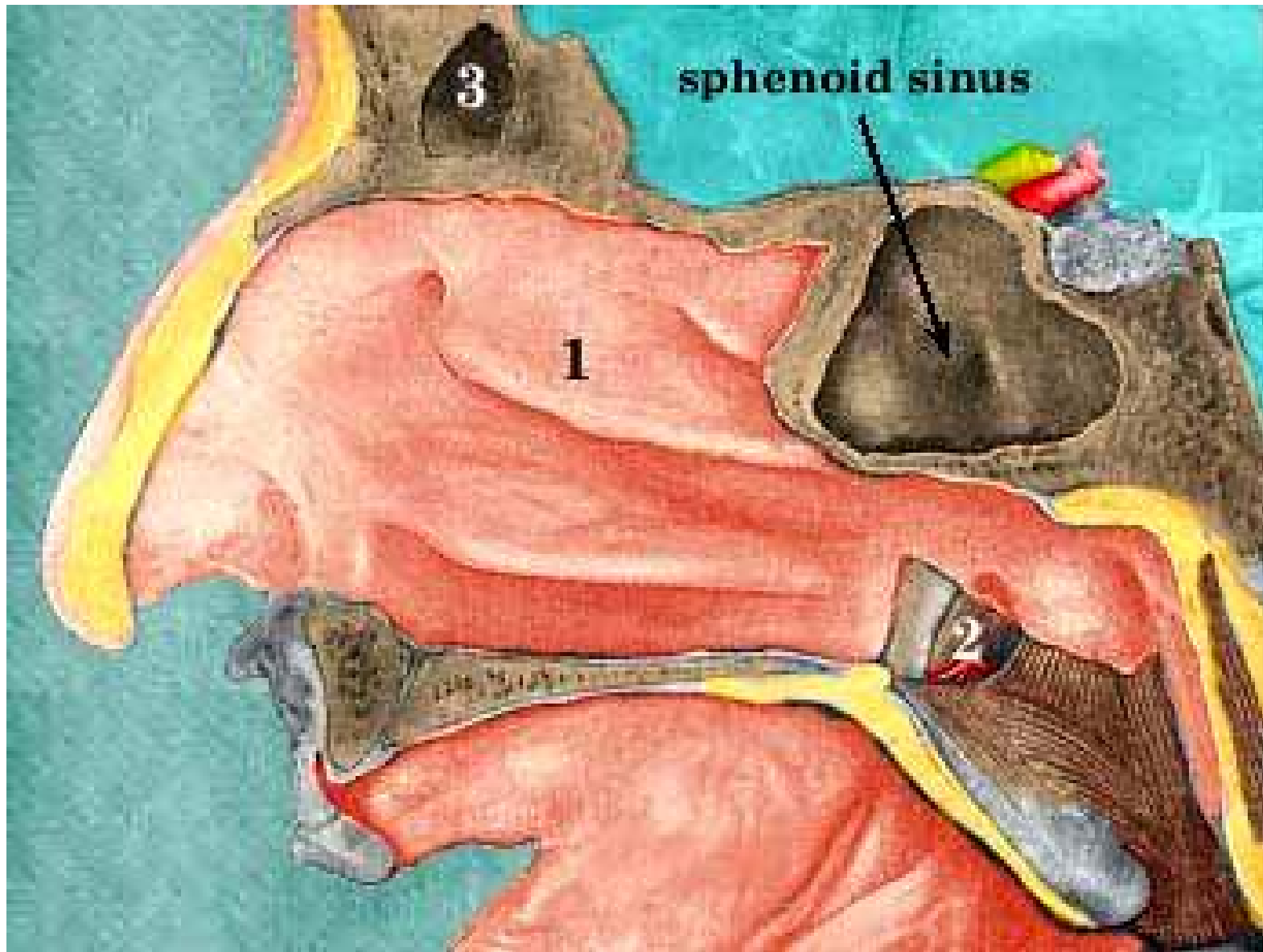
Paranasal Sinuses



Frontal And Maxillary air sinuses



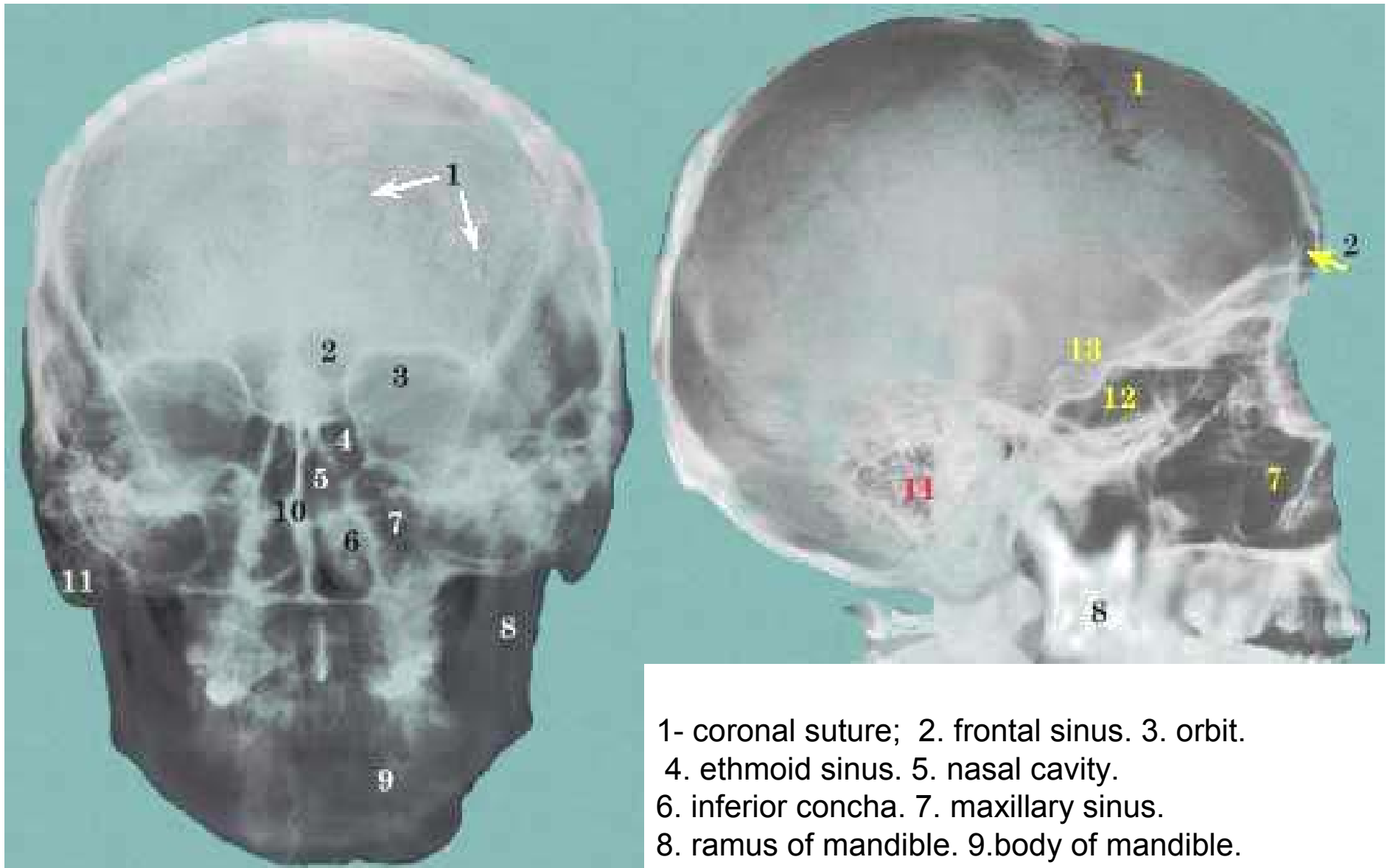
Ethmoid Sinuses



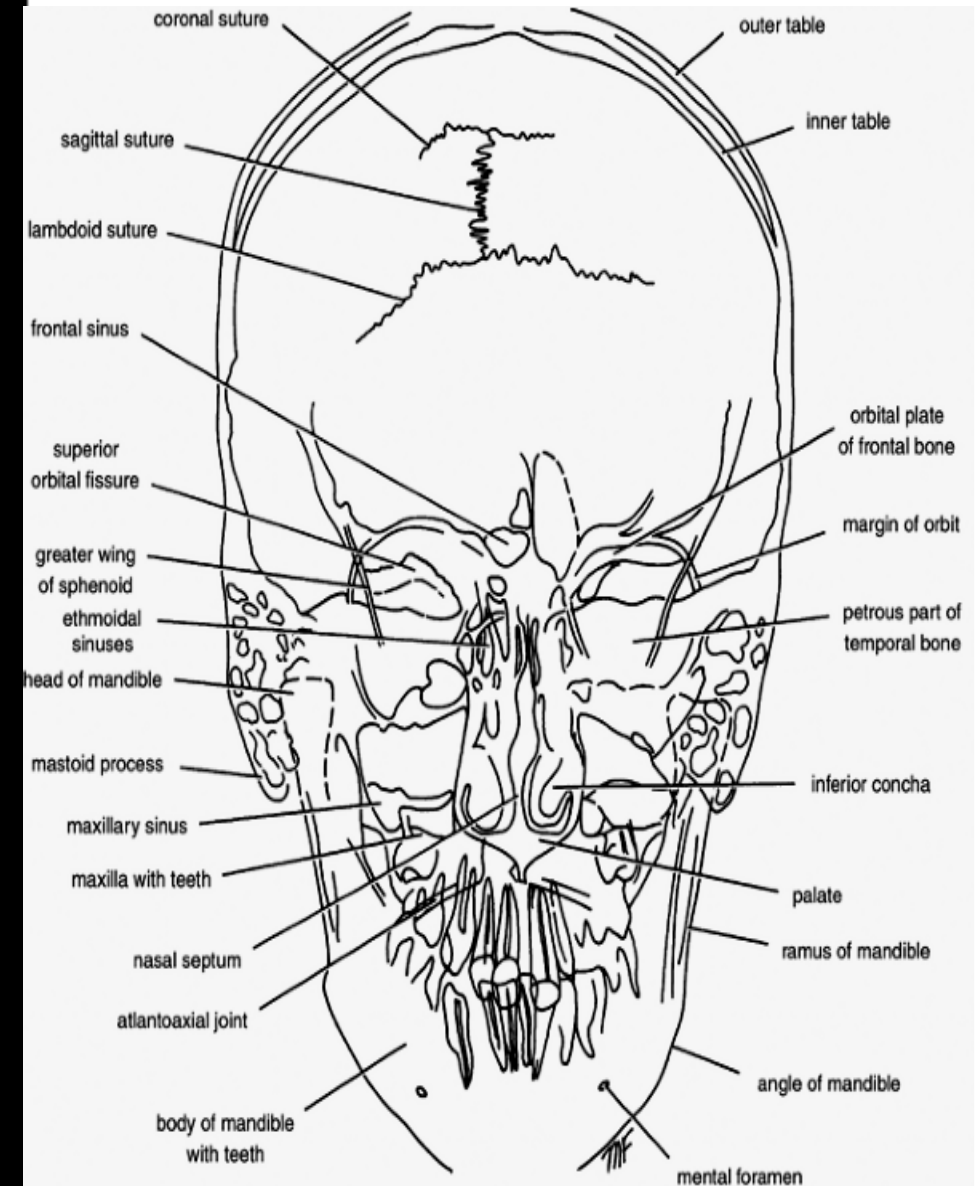
Sphenoid air sinus

Radiograph of the Skull

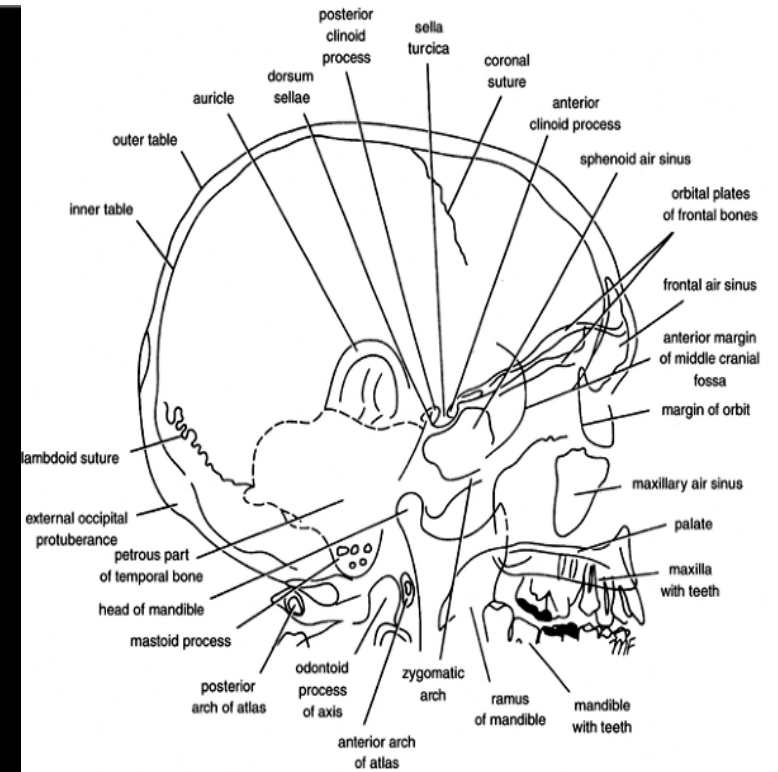
Dr. Noura El Tahawy



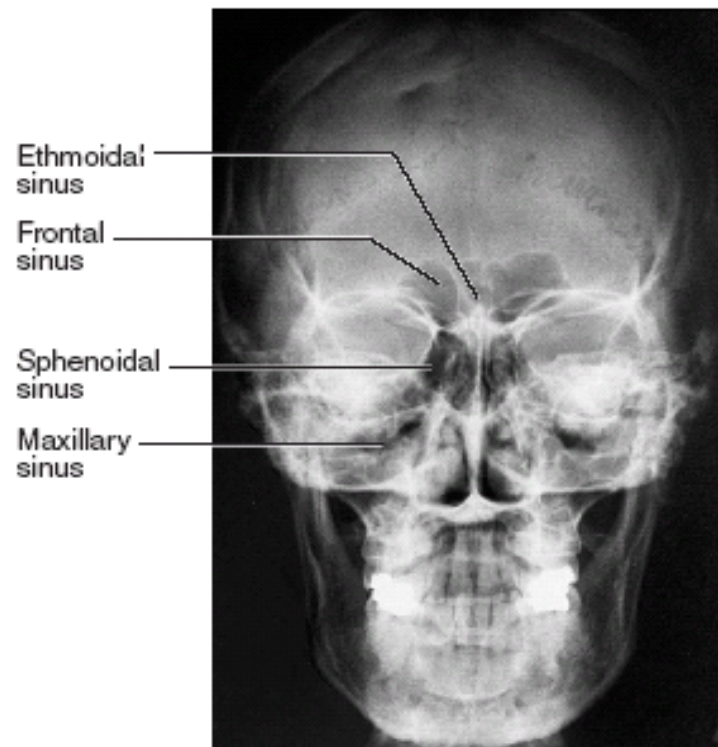
- 1- coronal suture; 2. frontal sinus. 3. orbit.
 4. ethmoid sinus. 5. nasal cavity.
 6. inferior concha. 7. maxillary sinus.
 8. ramus of mandible. 9. body of mandible.
 10. nasal septum. 11. mastoid air cells
 12. sphenoid sinus. 13. hypophyseal fossa



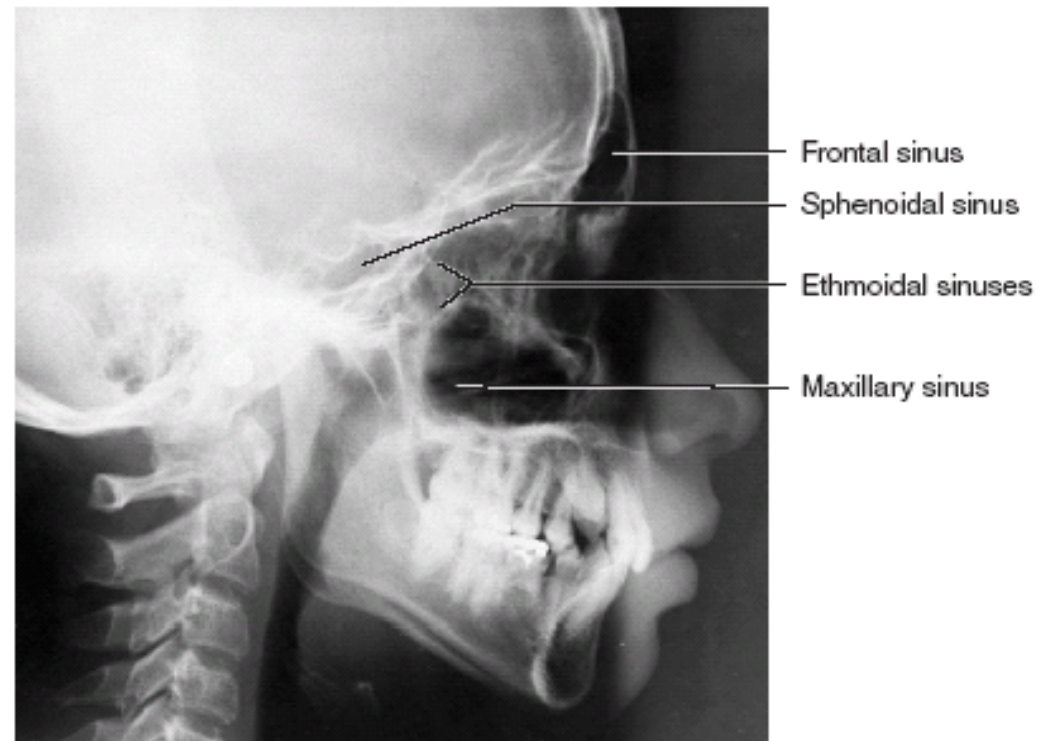
**Plain x- ray;
Postero-anterior View**



**Plain x- ray;
Lateral View**



(a)

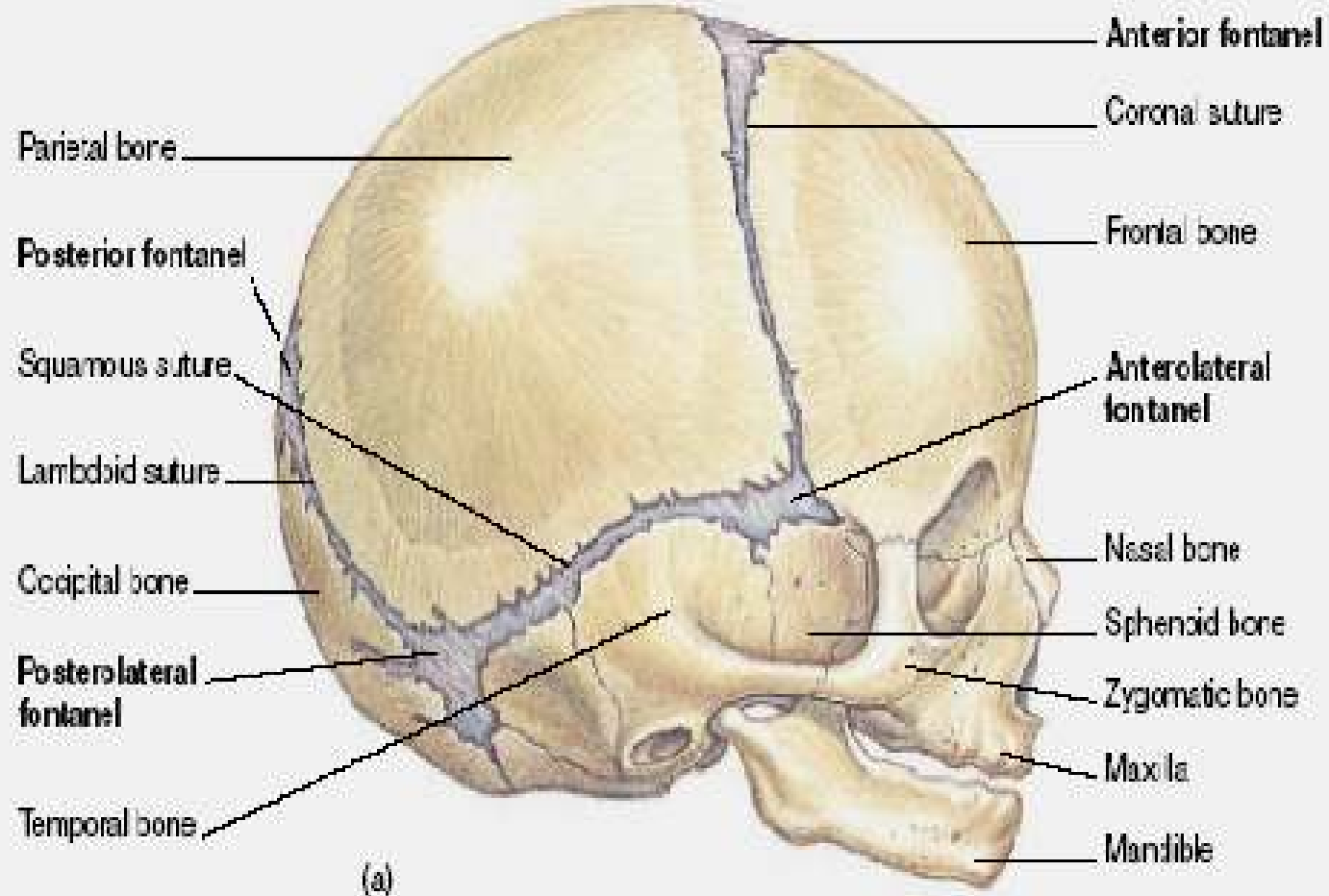


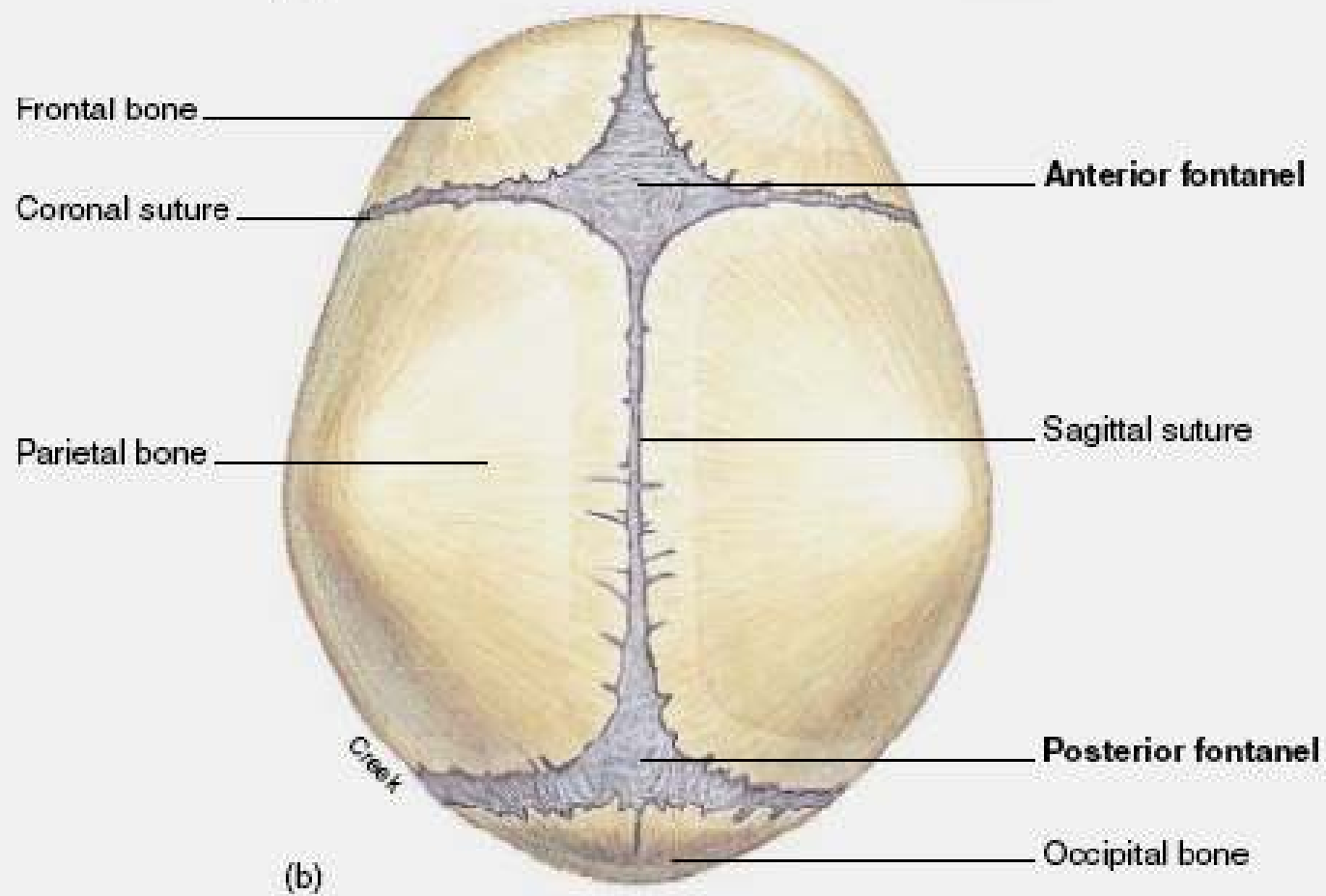
(b)

Radiographs of the skull showing the paranasal sinuses. (a) An anteroposterior view and (b) a right lateral view.

Neonatal skull

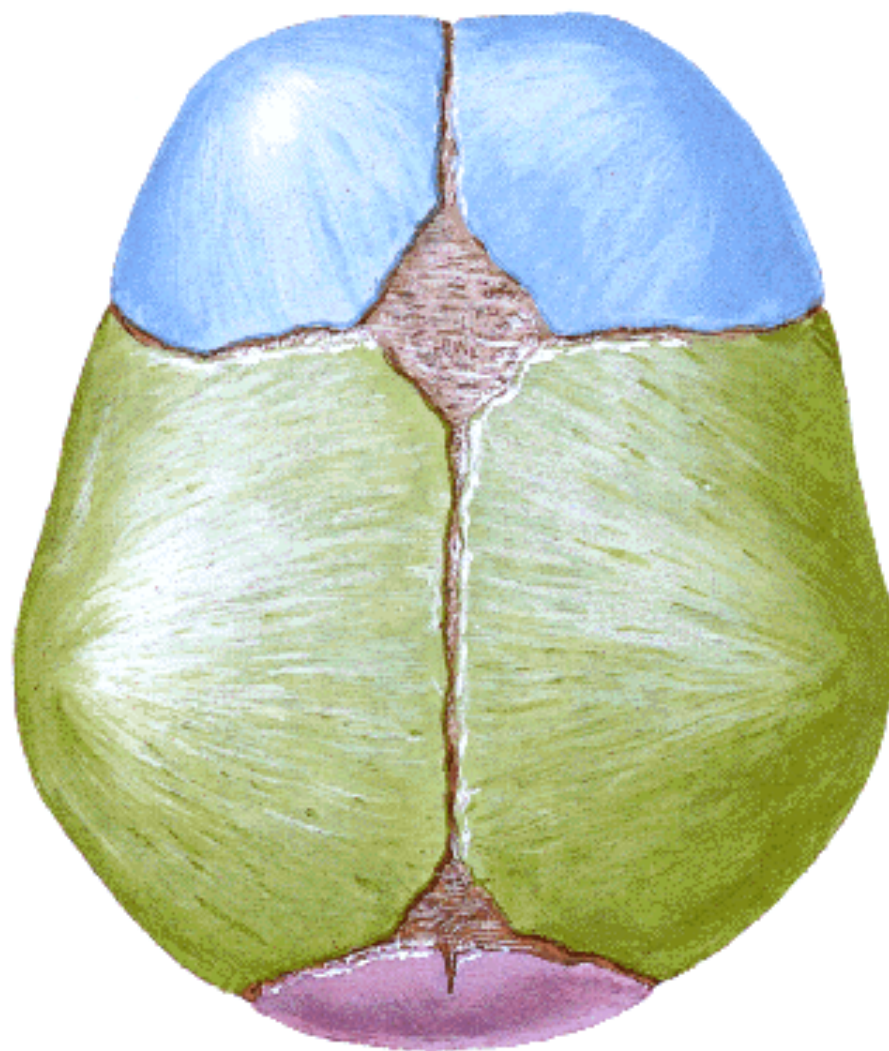
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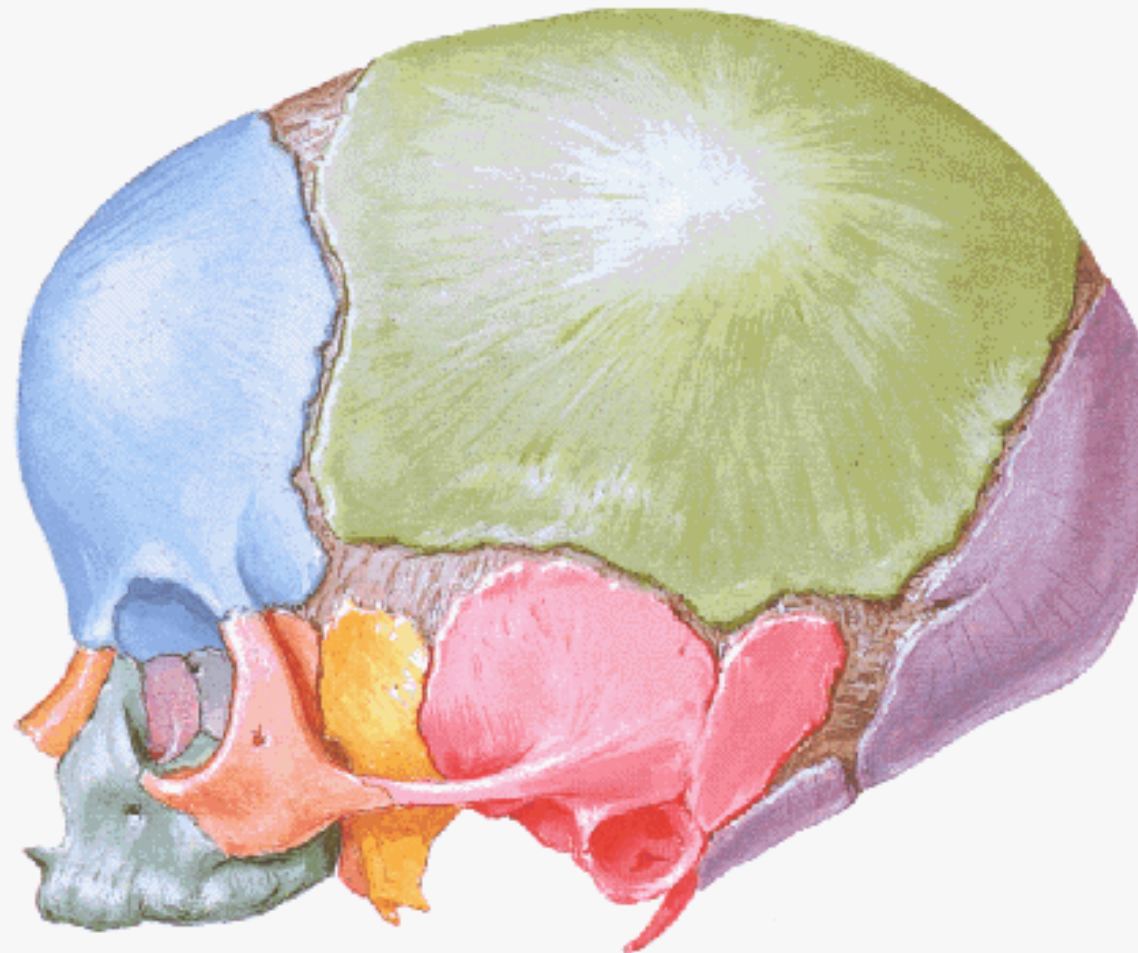
Skull of Newborn

Superior View



Skull of Newborn

Lateral View

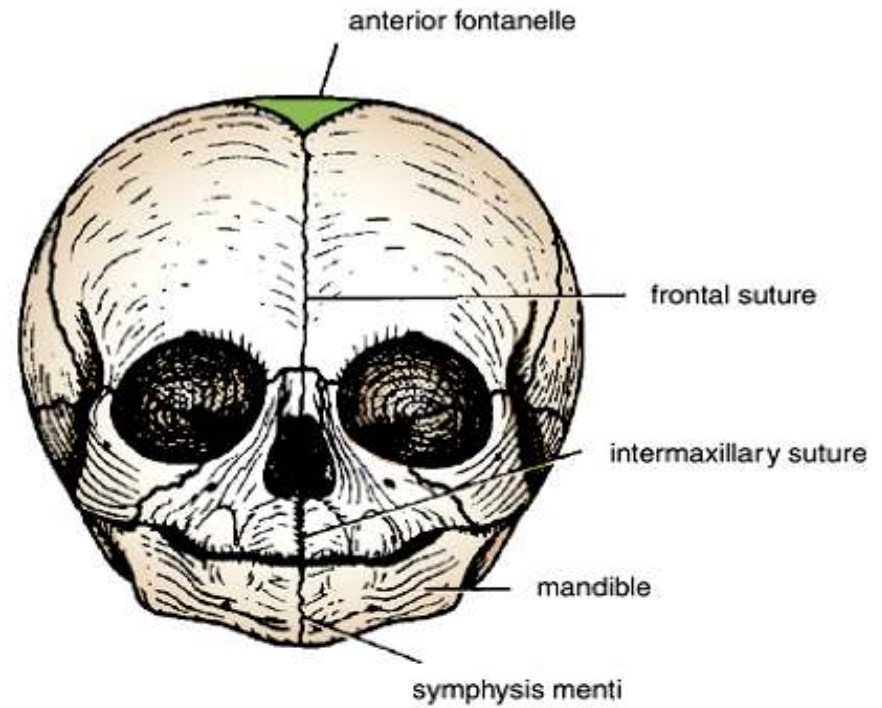


Neonatal skull

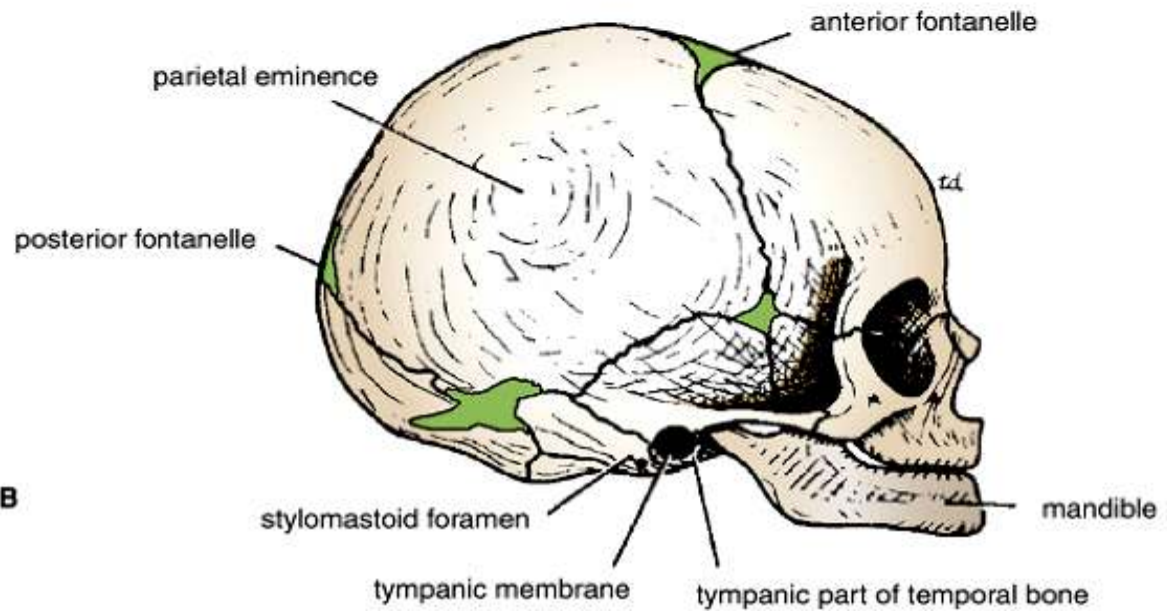
A. Anterior view

B. Lateral view

A



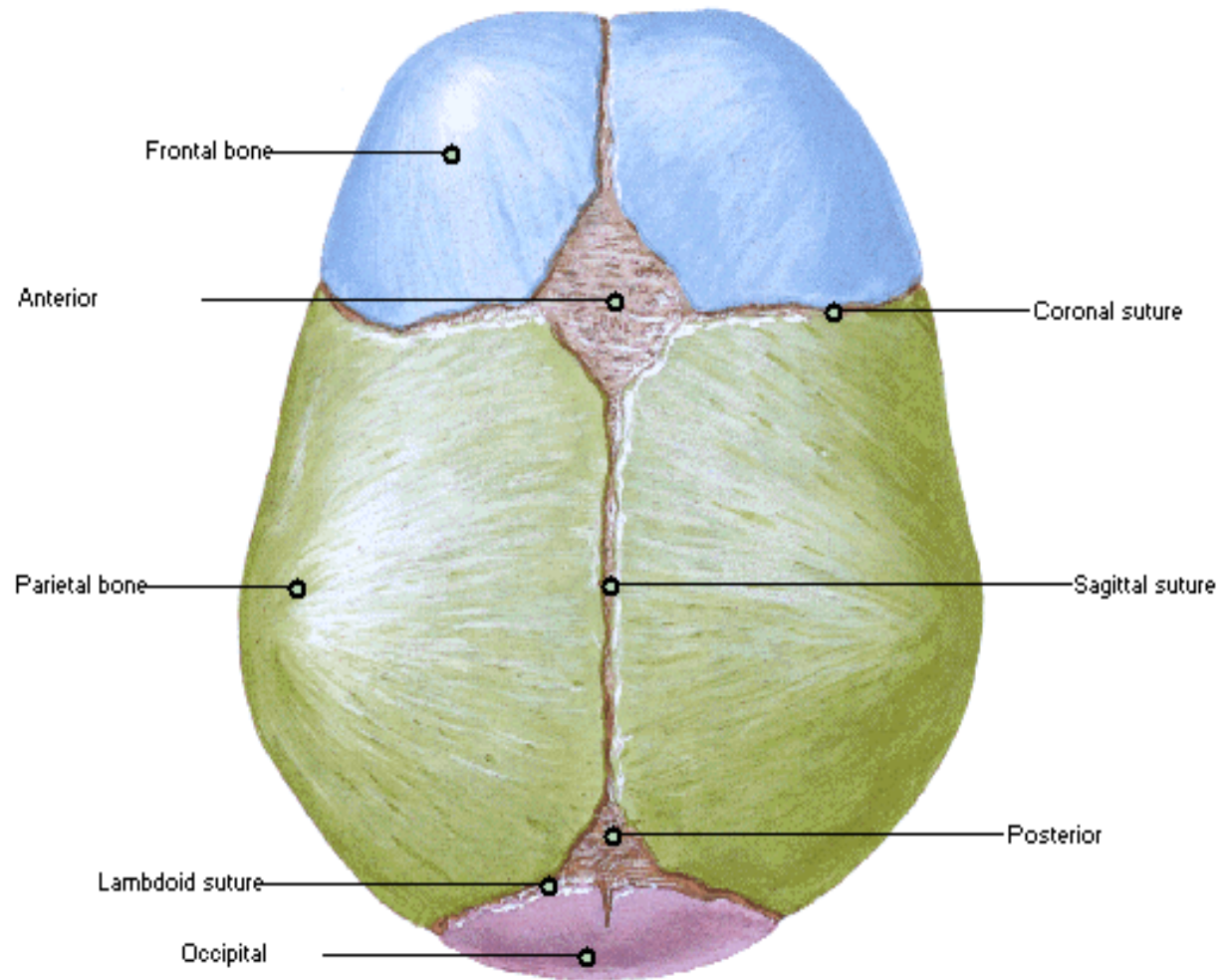
B



Differences between neonatal and adult skull:

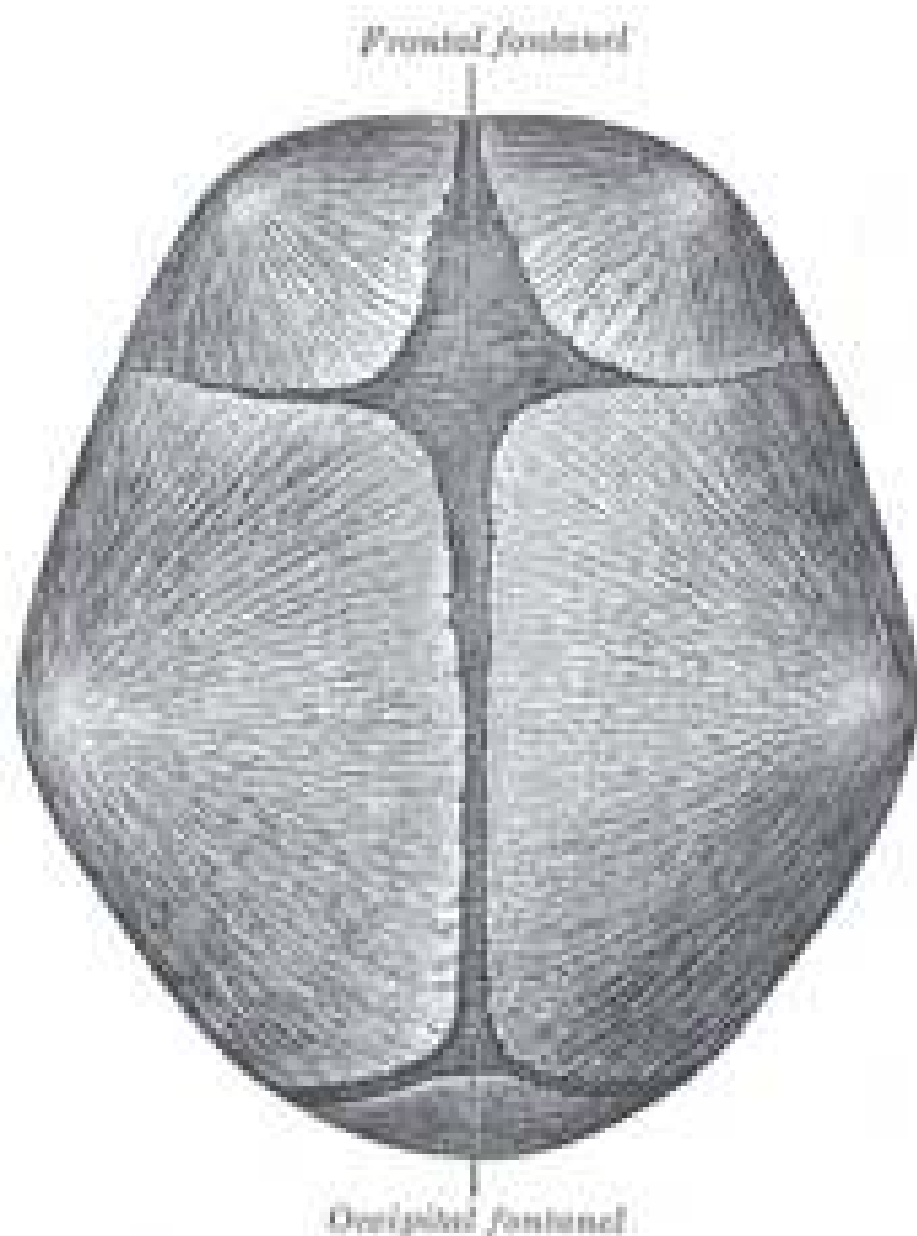
1. It has relatively larger cranium in contrast to the smaller face.
2. There is an increase in length of face in childhood due to growth of mandible, maxillary sinuses and alveolar processes of the maxillae.
3. The bones of the skull are smooth and unilaminar without diploe inside.
4. The bones are mobile being connected by fibrous tissue or cartilage because ossification process is incomplete.

Skull of Newborn
Superior View



Differences between neonatal and adult skull

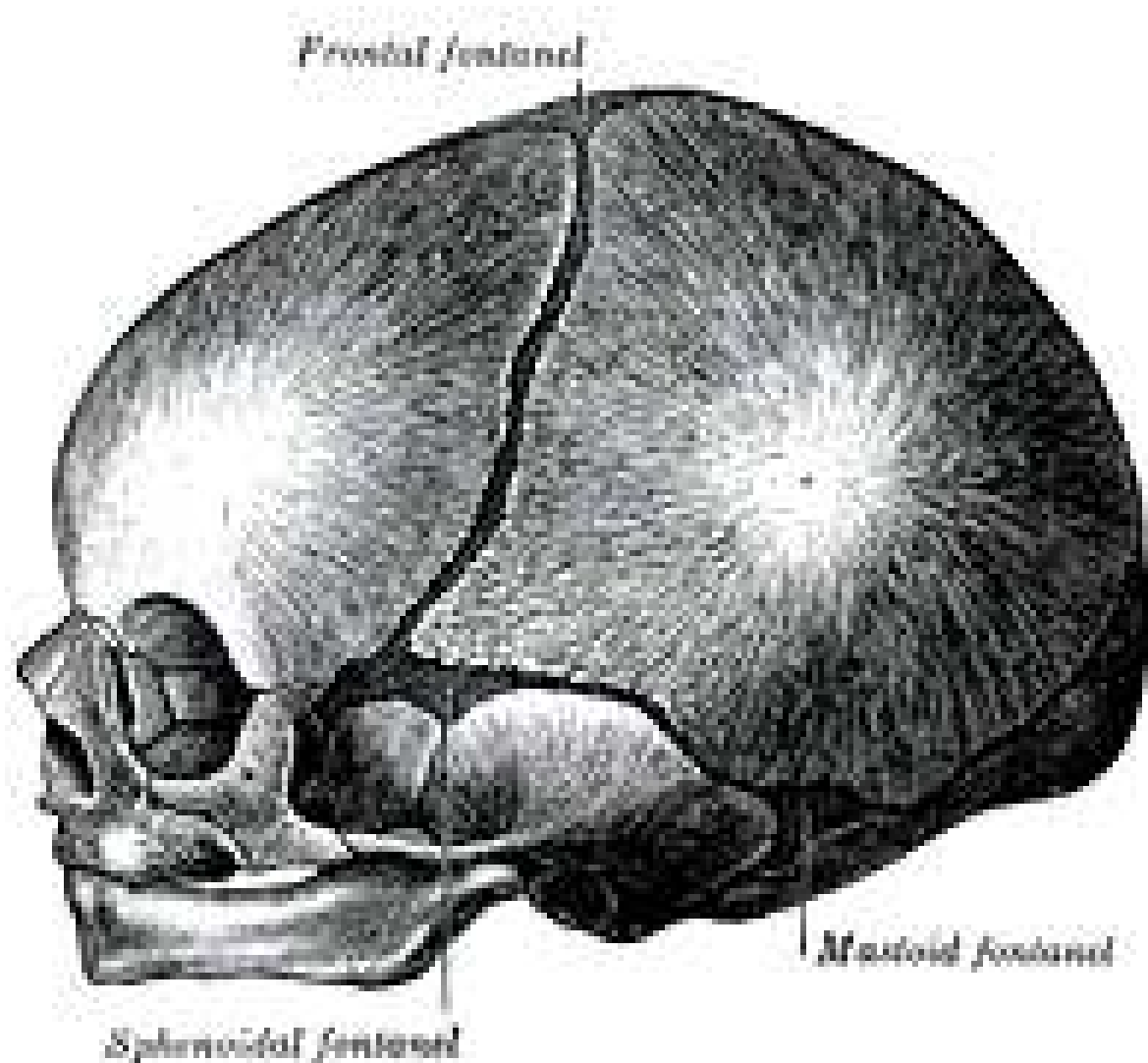
5. The bones of the vault being ossified in membrane are separated by unossified membranous intervals called fontanelles:
- a) Anterior fontanelle: is diamond shape and is bounded by the two halves of the frontal bone in front and the two parietal bones behind.
It closes by the age of 18-24 months after birth.
 - b) Posterior fontanelle: is smaller triangular in shape and is bounded by the two parietal bones in front and the occipital bone behind.
It closes by the end of the first year.



Differences between neonatal and adult skull:

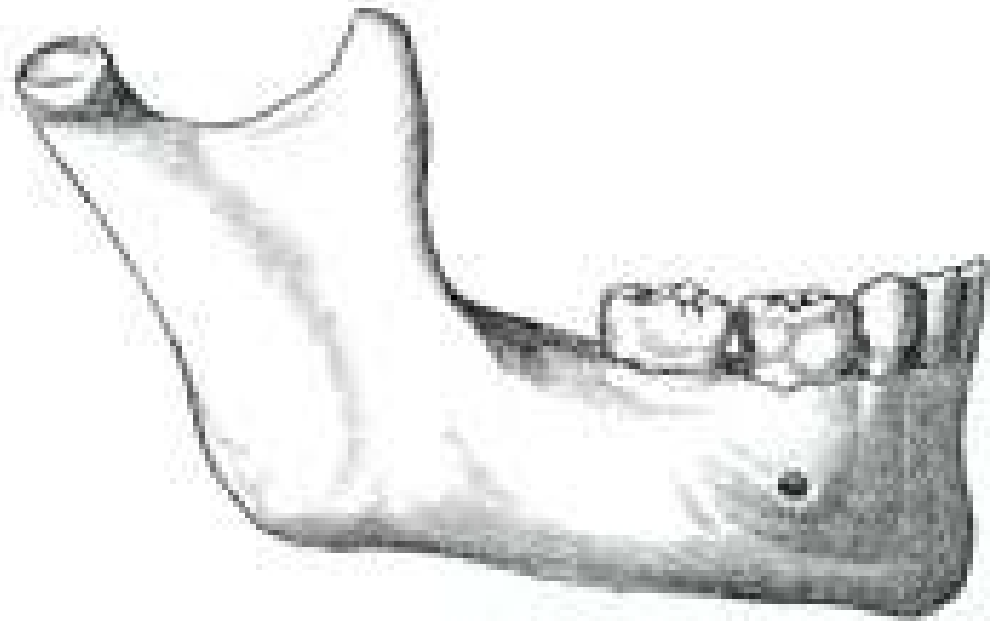
6. The tympanic part of temporal bone is a C-shaped ring at birth, compared with a C-shaped plate in adult. This means that external auditory meatus is almost cartilaginous in newborn and the tympanic membrane is nearer to the surface.
7. Mastoid process is not present at birth and develops later as a result of the pull of the sternocleidomastoid muscle when the child moves his head
8. At birth the mandible has right and left halves united in the midline with fibrous tissue.

The two halves fuse at the symphysis menti by the end of the first year.



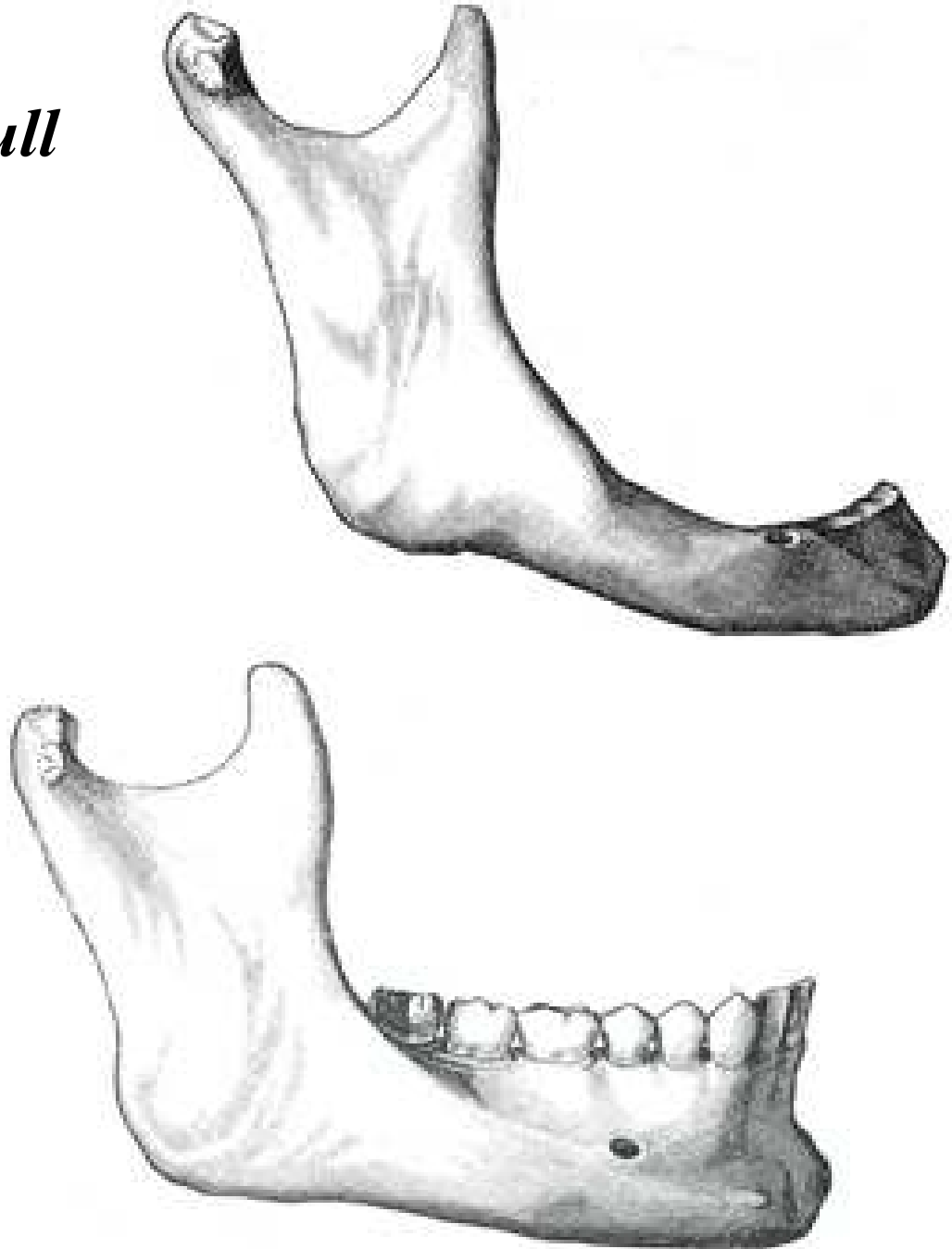
Differences between neonatal and adult sk

9. The angle of mandible is obtuse at birth, forming right angle in adult and becomes obtuse again in old age.
10. The coronoid process is higher than the head of mandible in children but the head becomes higher in adult.



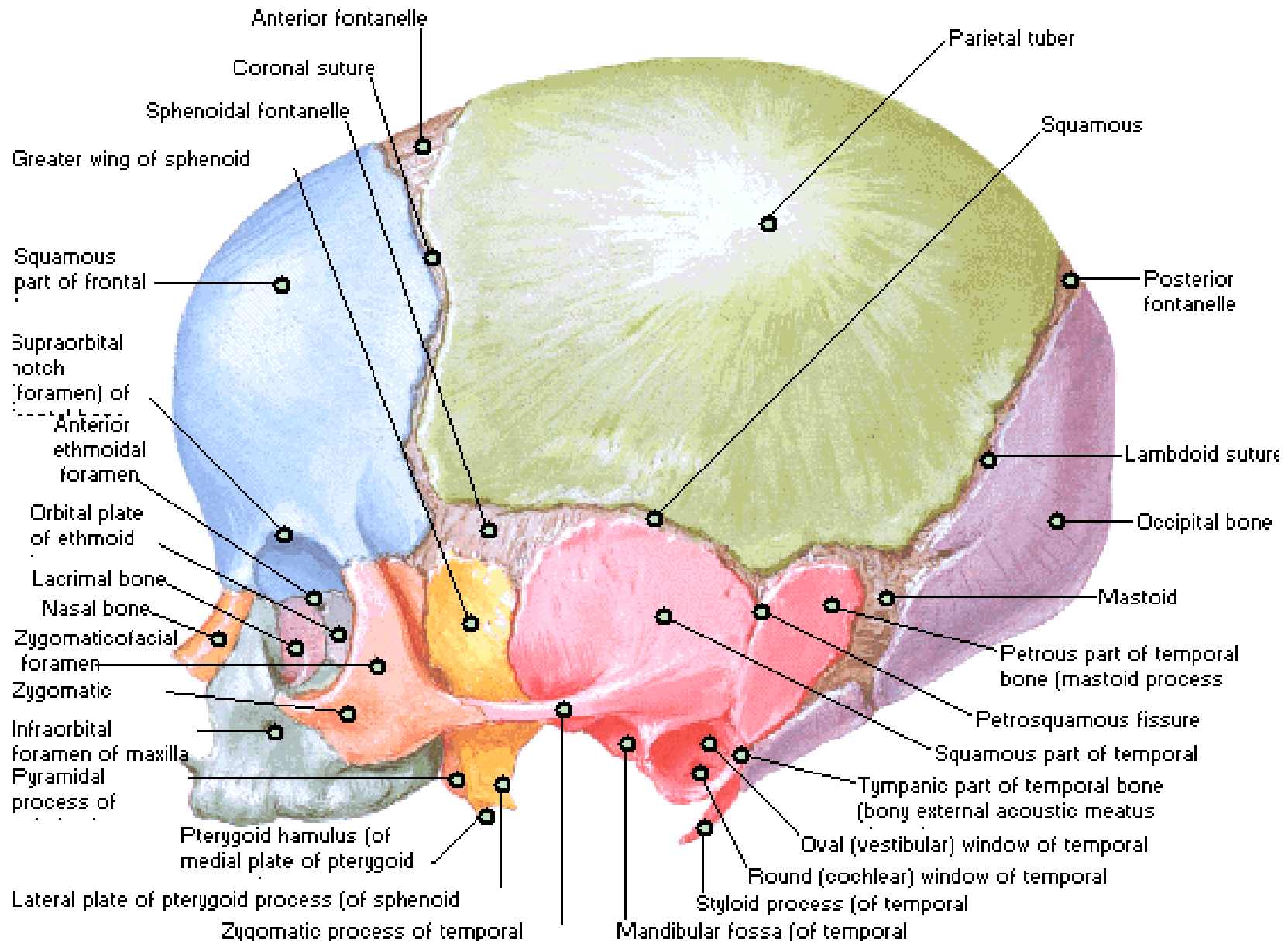
Differences between neonatal and adult skull

- 11. The alveolar margin develops as age proceeds.
- 12. In old age the size of mandible is reduced when the teeth are lost.
- 13. The mental foramen lies nearer to the base of mandible in children, nearer to the alveolar margin in old and midway in adults.



Skull of Newborn

Lateral View



References

- 1. Clinical Anatomy by Regions; Richard Snell; 2008**
- 2. Anatomy Lesson ; Wesley Norman, Ph. D; 1999**

Thank you